

TECHNOLOGY

REVIEW

June 1955



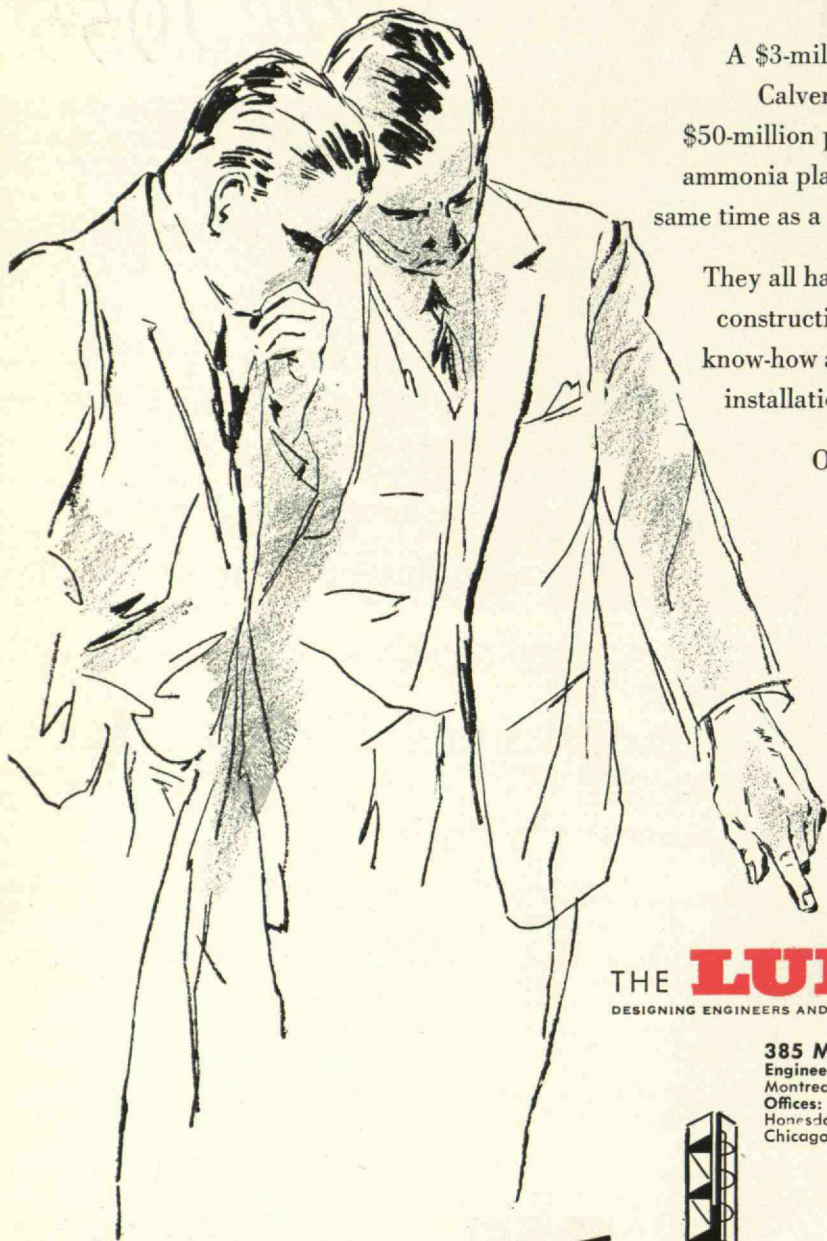
technology review

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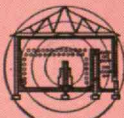
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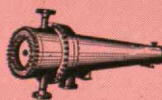
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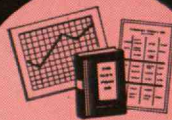
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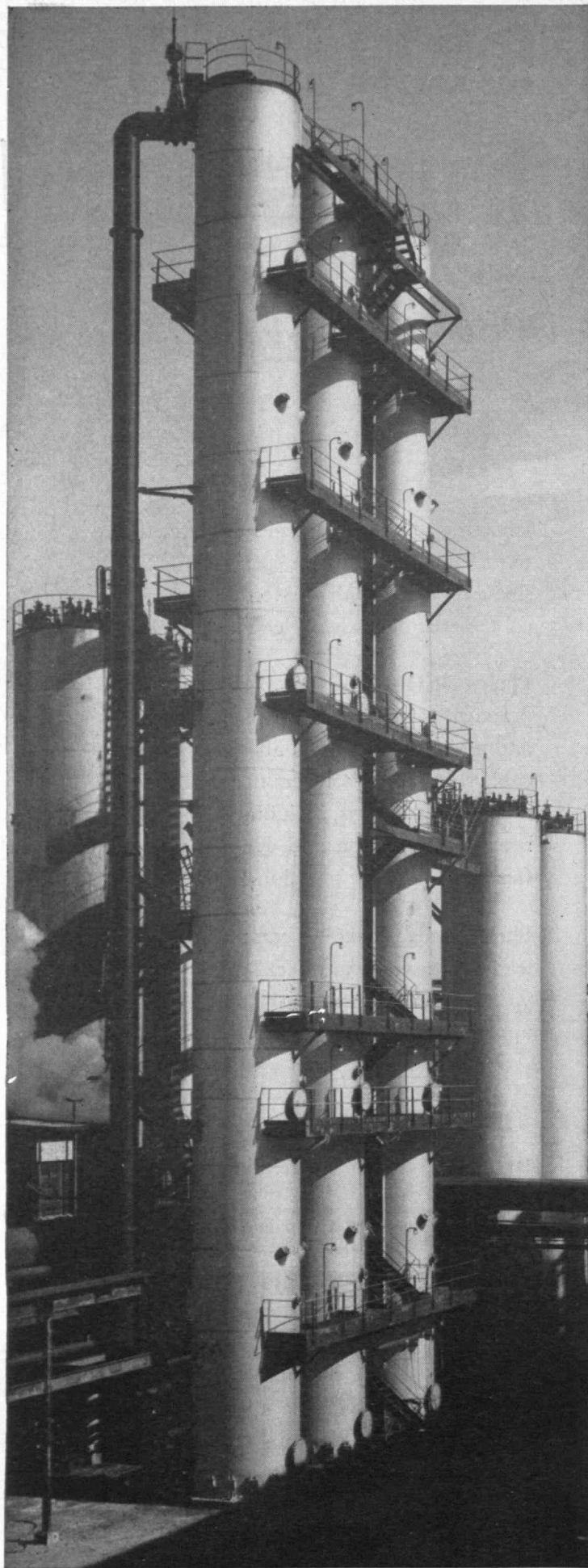
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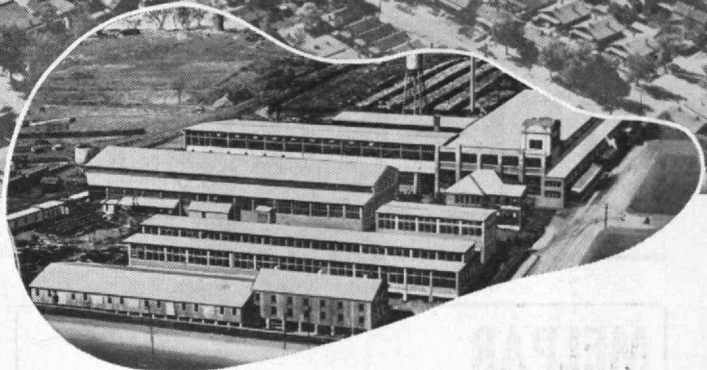
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THE WORD FOR COMBUSTION IS GROWTH

One of Combustion Engineering's two plants at Chattanooga, showing artist's renditions of new facilities now being built: (A) nuclear building, (B) wharf and (C) site of mechanized foundry. Insert view shows plant as it looked in 1935 when it occupied property in outlined area.



• In little more than three years, Combustion Engineering has doubled the capacity of this plant, one of its five domestic manufacturing divisions. And the growth continues, high-lighted by new multimillion-dollar facilities to increase both production capacity and product diversity.

NEW NUCLEAR FACILITIES

The new facilities shown above and others in the planning stage will enable Combustion to manufacture complete nuclear reactors. Among the new facilities will be a 15,000,000-volt betatron for fast X-ray inspection of heavy steel castings, forgings, plates and welded joints. But this doesn't mean nuclear power is new to Combustion! In fact, C-E has been active in the nuclear field since 1946, and, with existing facilities, has already built or is now building such major nuclear power equipment as reactor components and boilers for the submarine Sea Wolf and the reactor vessel for the first commercial-size nuclear power plant in the country. The new wharf being built on the Company's frontage on the Tennessee River will make possible water

transportation of "too-heavy-for-rail" nuclear vessels through most inland waterways and to all coastal points. It will also be available for low cost shipment and receipt of many other items.

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A corporate philosophy that emphasizes growth and insists on the most modern facilities—like those described above—is one of the many reasons why boilers and related equipment bearing the Combustion nameplate are found all over the world. Whether your steam requirements are large or small, you can look to Combustion for equipment of advanced design, built to the highest manufacturing standards.

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THE TABULAR VIEW

Acceptance.—In dedication ceremonies at the Kresge Auditorium on May 8, PRESIDENT KILLIAN accepted the new auditorium and chapel on behalf of the Institute, and indicated the part these two new buildings are expected to play in the Institute's broad educational objective. The Review is pleased to bring to its readers this acceptance address (page 401) which includes some notes on the educational and spiritual objectives M.I.T. seeks to fill through the use of these structures. President Killian also introduced Sebastian S. Kresge of the Kresge Foundation, whose extemporaneous and informal remarks are mentioned (page 385) in The Review's running account of the dedication program and Fortnight Festival.

Dedication.—Principal speaker at the dedication of the new campus center at M.I.T. on May 8 was HIS EXCELLENCY E. N. VAN KLEFFENS, currently the Netherlands Minister to Portugal. Technological studies, Dr. van Kleffens held, can provide the environment for deepening our sense of spiritual values, provided they are intelligently directed. This scholarly dedicatory address appears in full on page 403 of this issue. Soon after taking his doctor of laws degree at Leyden University in 1918, Dr. van Kleffens began his diplomatic career. After two years in the Secretariat of the League of Nations, he entered the Netherlands foreign office, and, just before the outbreak of World War II, he was appointed foreign minister. He is a former ambassador to Washington. During the war he wrote *Juggernaut Over Holland* which, throughout 46 secret editions, gave moral support to the Dutch people. His connection with the United Nations dates from its earliest days, and last year he was president of the U. N. General Assembly. He is also minister of state—one of the highest offices the Netherlands can bestow. In this lifetime post, he serves as adviser to the throne.

Affirmation.—As part of the exercises in which the Institute's new auditorium and chapel were dedicated, the REVEREND THEODORE P. FERRIS gave the address of affirmation. Dr. Ferris took occasion to review the relationships between science and morality, and pointed out that the more power science places in the hands of man, the more he needs a sense of moral value to guide him in the use of that power. The Review is happy to bring to its readers (page 406) the text of this stimulating address. Dr. Ferris received the A.B. degree from Harvard University in 1929, the B.D. degree from General Theological Seminary in 1933, and the D.D. degree from Rollins College in 1944. He was ordained as deacon in 1933, and as priest in 1934. From 1933 to 1937 he was assistant at Grace Church, New York, and between 1937 and 1942 he was rector of Emmanuel Church in Baltimore. He is now rector of Trinity Church in Boston, and a special term member of the M.I.T. Corporation.

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MAIL RETURNS

Controversy on the Great Conversation

The publication of George Tichenor's "Interrupting the Great Conversation" in the March, 1955, Review brought a welcome windfall of readers' comments to the editor's desk. In fact, the response to this article has been the means of reminding the editor that the reader audience of The Review continues to be an alive and stimulating one. Here are some of the comments to be shared.—Ed.

FROM J. TERRY SMITH, '33:

The article raised the problem with surpassing skill but sloughed off the solution without much application of that remarkable phenomenon, the scientific method. Such an end result might have been expected from one so trained as the author in the "liberal arts." If the true facts were elicited from some of the hundreds of thousands of engineering graduates of the past 20 years, the solution of today's dearth of not-yet-dry-behind-the-ears "engineers" would be obvious.

The country is full of men who received an engineering education back in the good old days when the term humanities had not been invented. However, quite a large portion of them have found that the pay scales for their talent as engineers are considerably lower than they had been led to expect before the 1929 crash in the stock market.

Large-scale industry pays only for what it needs. It needs labor—skilled, semiskilled, and unskilled—and pays quite well for it. It needs salesmen to dispose of its product and pays very well for them. It needs a wide market to allow it to increase the quantity of its production and hence pays fantastically high prices for advertising. But does it need engineers to design its product and the tools to make it? Not altogether as much as one would think. Hence the role of engineers in industry is the minor one of refining a line here or making a closer tolerance there, or maybe giving the scrap heap a long close look to try to avoid so much waste and hence reduce the cost of the product. No new inventions sprout in such an atmosphere. Any respectable junkman can spot waste. Any good maintenance man can find weak spots in either the product or the tools that make it. Finally, when we examine the backgrounds of the men who manage the typical large business we find that they are not interested in science or engineering, as such, but only to the extent that such knowledge may enhance their profit and loss sheet.

Today the government is the largest employer of engineering and scientific skills. The pay is abominably low. Small wonder that Junior has no desire to be an engineer like Daddy. Junior can make more money as a craftsman and he doesn't have to go to college either.

True, there are various so-called engineering schools which have to teach high school algebra to their freshmen so that they can understand the next year's course in high school physics and finally be induced to take a course in high school chemistry. These are probably included in the total of 20,000 graduates mentioned in the article. Unfortunately, very few engineering schools have as high standards as M.I.T. As an operator in a big business I come in contact with numerous of the breed and witness some fantastic concepts which the "engineers" try to put over. . . . Thus is the vicious circle completed. Poor engineering education leads to poor job with poor

(Continued on page 380)



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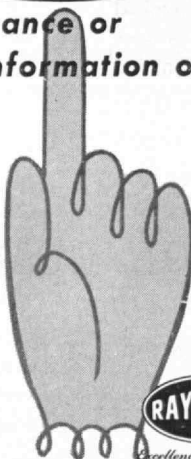
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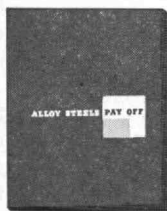
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MAIL RETURNS

(Continued from page 378)

pay in company where the salesmen do the designing and the engineers are glorified draftsmen.

Only way out, both for the engineer and the country is to apply the law of supply and demand. This is being done, both by the companies who feel keenly the loss of good engineering talent and by the men who forsake engineering for another line of endeavor. Why the author of the article should wring his hands in woe over the fate of his precious skin at the hands of the Russian engineers is something I cannot fathom. Where was he in 1933, when engineers were a dime a dozen and no takers? Is all he has to offer a mild form of imitation of the Russians' statism?

The knowledge we need to beat the Russians is not something we learn in school out of books but something we should have learned at our Mother's knee. Worrying about how to fight the war of the future will only get you ulcers. It is not possible to negotiate a peace when the adversaries are thieves and murderers. The only thing left to do is to fight the war now, with the weapons at our command, on the ground of our own choosing. When dealing with honorable men, honor can be used, but when the converse is true how can we shrink from the task and wail "peace at any price"?

Aruba, Netherlands Antilles

FROM ALBERT S. KNIGHT, JR., '42:

I was very much impressed by the fact that the country needs more scientists and engineers. Being a graduate engineer from M.I.T., I feel that young people today should be encouraged to pursue a technical career. . . .

The article stressed the fact that the Soviet Union is turning out scientists and engineers two or more to our one. In face of that, why not use what we have in the country now to fill the vacant spots in industry? Survey the industries. Maybe there are good engineers now working as stock clerks, for example. If so, let's get them into engineering!

Rochester 10, N. Y.

(Continued on page 414)



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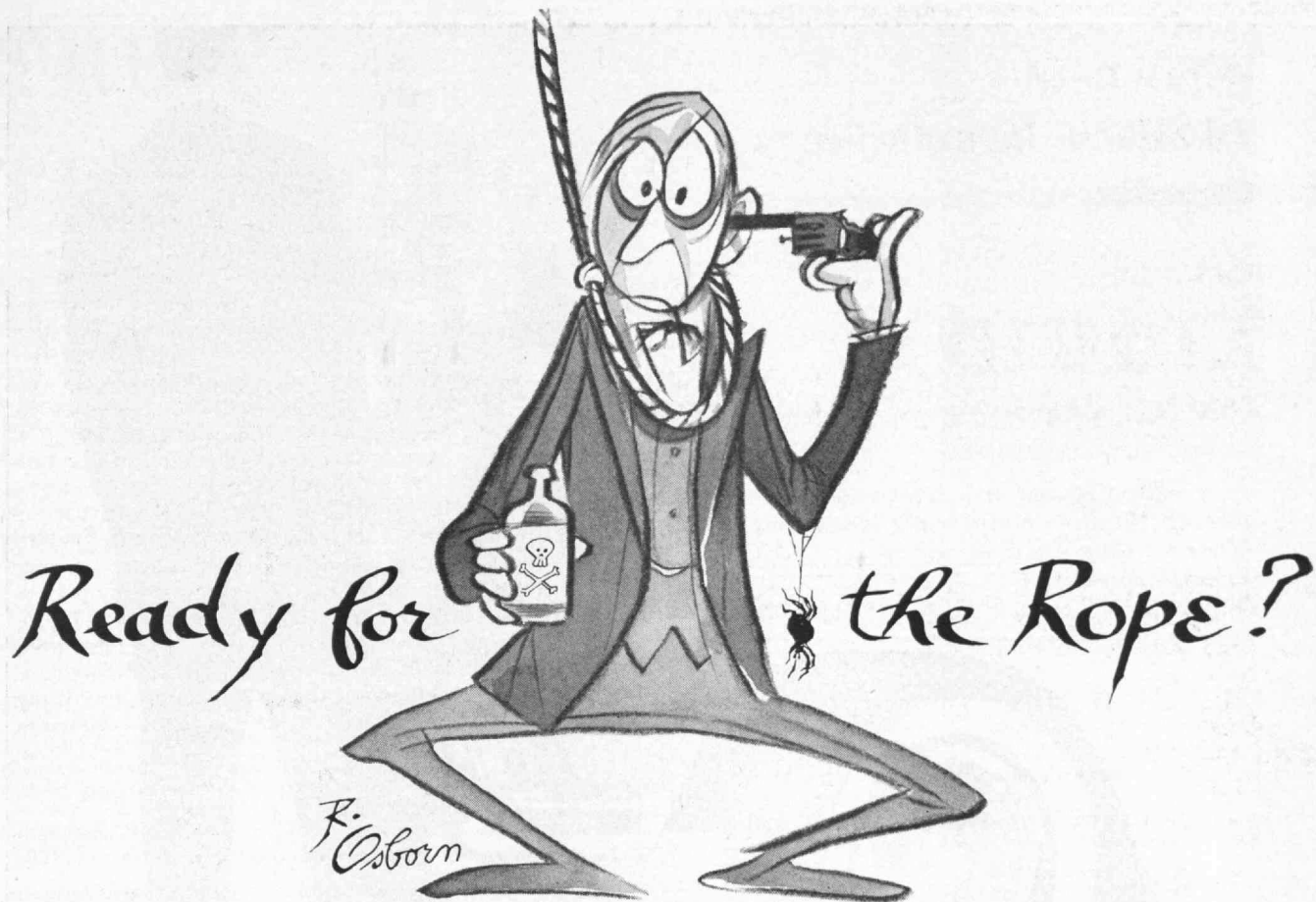
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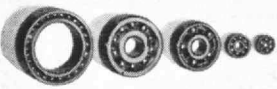

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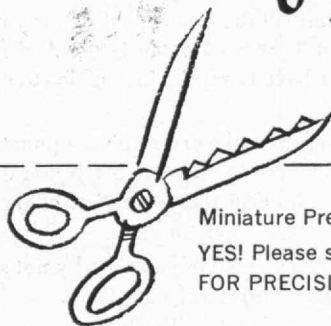
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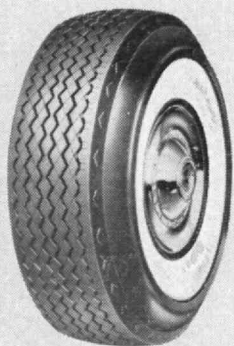
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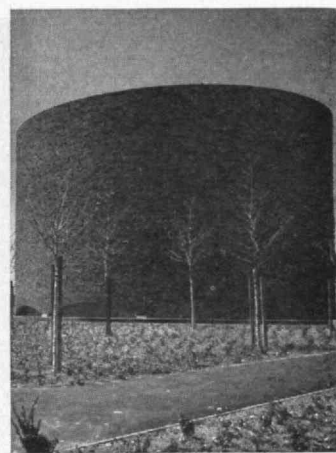
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JUNE, 1955

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M.I.T. Photo

"God also plays upon this string first, when he sets the soul in tune for himself."

The Shepherd Boy's Song — John Bunyan

With the opening of the Institute's chapel, interior of which is shown above, opportunity for meditation and worship in the manner of their choice is afforded to Technology students and Faculty members.

THE TECHNOLOGY REVIEW

Vol. 57, No. 8



June, 1955

The Trend of Affairs

Dedicate Kresge Auditorium and Chapel

PROBABLY NO event in the current school year at M.I.T. is more indicative of, or more in keeping with, the trend of affairs than the two-week (April 30–May 14) festive events that reached a peak on May 8 when the Kresge Auditorium and Chapel were dedicated. The 1,200 persons who attended the two-hour dedicatory ceremony heard James R. Killian, Jr., '26, President, accept the two splendid structures on behalf of the Institute; reflected upon the address of affirmation by the Reverend Theodore P. Ferris, Rector of Trinity Church, Boston, representing the M.I.T. Corporation; listened to a scholarly dedicatory address by His Excellency E. N. van Kleffens, Minister of State, the Netherlands Minister to Portugal; and received inspiration from Rabbi Herman Pollack and Father Edward J. Nugent, both of whom are among the group of spiritual advisers to Technology students.

In addition, the audience was treated to the premier performance of "Canticle of Freedom" by Aaron Copland, and it heard the M.I.T. Choral Society, Glee Club, Symphony Orchestra, and Brass Choir in an unusual program of modern music which, nevertheless, had deep roots in past centuries. With the exception of the Copland composition, commissioned for the occasion by M.I.T., all portions of the dedicatory program mentioned above were conducted in the traditional manner, according to the program given in the box on page 386.

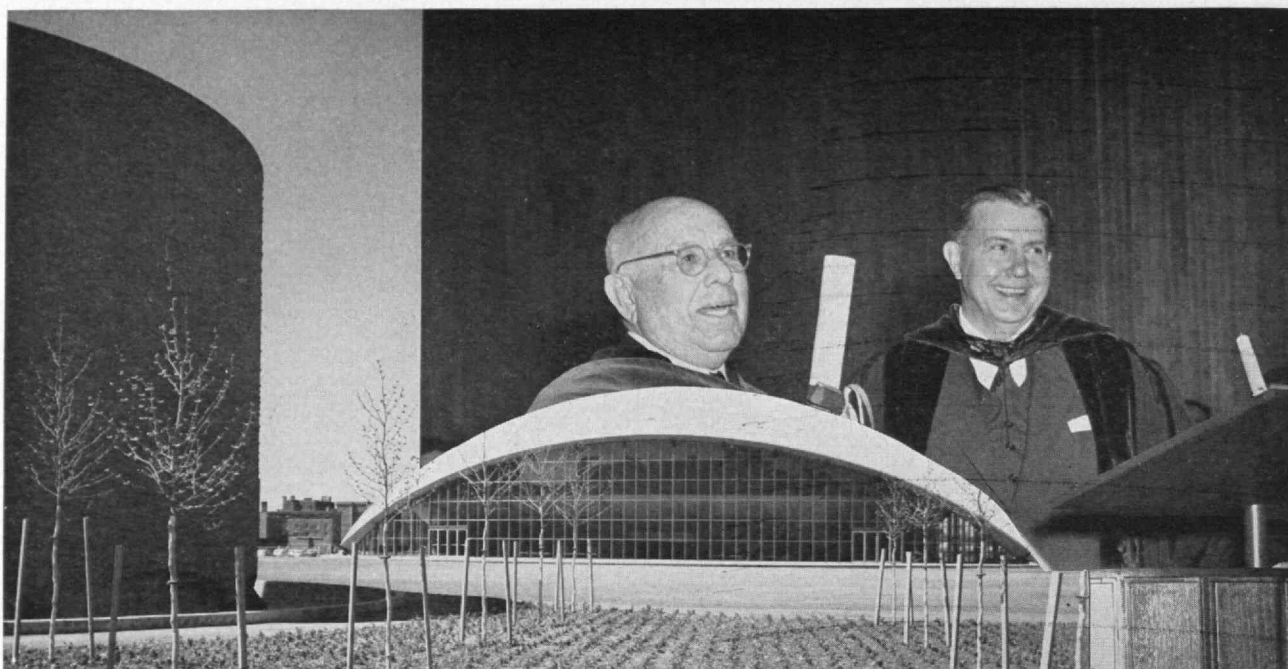
Sebastian S. Kresge, founder of the Kresge Foundation and principal benefactor of the two buildings around which the Institute's future social, cultural, and religious life will center, completely captured the audience with his informal and unprepared remarks.

Stressing the need to develop the virtues of independence and thrift, coupled with hard, honest toil,

Mr. Kresge spoke of his ancestors and his early life on the family farm in the Pocono Mountains of Pennsylvania where members of his family still live. Unconsciously emphasizing the vast changes which have taken place in our moral attitudes, family life, and economic philosophy since his birth 88 years ago, Mr. Kresge recalled that, at the age of 19, he taught a country school for a wage of \$22 per month. He emphasized the magnitude of his salary by stating: "I mean \$22 per month, not \$22 per week, \$22 per day, or \$22 per hour." The money he earned went to his parents until he was 21 years of age. For the next decade, Mr. Kresge was employed as a salesman, but the urge to grow and to develop, along with the youthful United States, was strong, and in 1897 he took over half interest in a store in Memphis, Tenn. Smiling, as he leaned over the lectern in the new auditorium he had given to Technology, Mr. Kresge said:

"I'm going into this foolish talk to show you how someone can get along if we just economize and work — and do a lot of other things too, of course. I worked; I didn't work only eight hours, but sometimes 18 hours a day."

Suddenly he stopped talking about his youth and became occupied with the event that was the occasion for his visit to the Technology campus. He reported that he had not seen the buildings named after him until the very day of the dedication. In midmorning on Sunday, May 8, Mr. Kresge was conducted through the new buildings and had his first opportunity to meet members of the Institute's Faculty and Administration. A few hours later, as he spoke at the dedication, he was able to report that M.I.T. "officials look like good citizens. I wish them success in making better citizens for our nation and the world through these two buildings of my little instrumentality."



M.I.T. Photos

Sebastian S. Kresge delivers to President Killian a charter symbolizing presentation to the Institute of the new auditorium and chapel. The scroll, which Mr. Kresge holds, gives embodiment to the Institute's responsibility "to maintain an atmosphere of religious freedom wherein students may deepen their understanding of their own spiritual heritage, freely pursue their own religious interests, and worship God in their own way."

Exercises of Dedication

Fanfare	by Dietrich Buxtehude, 1629
Processional	by Johann Pezel, 1681 The M.I.T. Brass Choir, John Corley, Director
Invocation	Rabbi Herman Pollack Adviser to the Hillel Foundation at M.I.T.
Overture	"Canticle of Freedom" by Aaron Copland, for orchestra and mixed chorus. Text from <i>The Brus</i> , by John Barbour, 1375. This is the first performance of the work, which was commissioned for this occasion. The M.I.T. Symphony Orchestra, Glee Club, and Choral Society, Professor Klaus Liepmann, Director.
Presentation of the Auditorium and Chapel	Sebastian S. Kresge The Kresge Foundation
Acceptance	Dr. James R. Killian, Jr., President, The Massachusetts Institute of Technology
Affirmation	The Reverend Theodore P. Ferris, Rector of Trinity Church, Boston, representing the Cor- poration of M.I.T.
Hymn	"Now Let Every Tongue Adore Thee" The audience with the Chorus, the Brass Choir, and the Orchestra.
Dedicatory Address	His Excellency Dr. E. N. van Kleffens, Minister of State, The Netherlands Minister to Portugal, President of the Ninth Session of the General Assembly of the United Nations.
Cantata No. 50	by Johann Sebastian Bach, "Now Shall the grace . . ." The M.I.T. Choral Society, Glee Club, and Symphony Orchestra
Benediction	Father Edward J. Nugent Chaplain to the Technology Catholic Club
Fanfare	by Ernst Levy, 1947
Recessional	by Earl Zindars, 1952 The M.I.T. Brass Choir

Thus, in simple, sincere words did Mr. Kresge strike the keynote of the dedication. His remarks were extemporaneous in the sense that he did not employ a prepared address or speak from notes. But no one could miss the fact that his simple direct remarks reflected almost nine decades of preparation through a life in which moral strength had been constantly enriched, not alone by early training, but by righteous living. All who heard him subconsciously recognized that Mr. Kresge had learned well his lessons to fear God, to help his fellow man, to work hard, and to save a portion of the products of his toil. These are the fundamental virtues to which the new buildings are dedicated, and a more effective expression of this aim could hardly have been made. Mr. Kresge's comments carried the force of conviction through directness and simplicity; he was not acting, but in Thespian parlance, "he brought down the house."

As if to recognize and emphasize the new era ushered in by dedication of the new buildings, the New England weather cleared up at noon on Sunday, May 8, after a fortnight of almost unbroken rainy weather. The transition could be regarded as symbolic that a long period of activity and preparation were about to initiate Technology's new venture into those phases of life in which the integral sign, slide rule, and test tube play a role completely subordinate to the lyre, the scroll, and the altar.

For considerably more than a year, the Institute's West Campus has been the scene of intense activity as ground was broken, forms were erected, steel reinforcement was set in place, and concrete was poured for what are — by all odds — the most unusual buildings to be erected on a new plaza and cultural center at M.I.T. The new structures are sufficiently different from anything that has thus far

been built on American college campuses as to elicit the editorial comment in *Architectural Record* that: "American architecture and building are not likely to be quite the same after M.I.T.'s new center is finished." Whether this prophecy will prove to be true or not, certainly the *Record's* comment is indicative of the kind of interest aroused in the architectural profession by the new auditorium and chapel designed by Eero Saarinen and Associates.

Many new and unusual features are incorporated in the two new buildings whose conception itself brings new meaning to the architect's phrase that "form follows function." Pertinent thoughts underlying the architectural philosophy which guided the design of the auditorium and the chapel are stated for The Review in the following words from Eero Saarinen:

Now that the auditorium and chapel have been dedicated, it seems interesting to look back at the concepts which lay behind their design.

First, the auditorium. I have been asked why the auditorium did not have the so-called "perfect acoustical shape" which I had used in auditoriums before. Acoustics seem to me—and I think our acoustical engineers, Bolt, Beranek and Newman, would agree—a modifying factor. It is a most important modifying factor, but not a science with the authority to impose a basic shape on an auditorium. The structure, involving the spanning of a great space, has more authority in terms of design and the determination of a basic form. Moreover, a basic form can

be expressive of a larger purpose than the mechanical one and may also be a form that has a meaningful relation to its site and its neighbors.

A dome seemed right for the M.I.T. auditorium for many reasons: (1) That shape is a recurrent motif of the existing M.I.T. campus; (2) It gives expression to the idea of sheltering a large space—a single room—in which many people can congregate; (3) It provides a pleasant interior space for an auditorium where the audience and the stage can be in intimate relation to each other (which was especially important at M.I.T.); (4) The strongest, most economical way of covering an area with concrete is with a dome and a dome of thin-shell concrete seemed right for a university interested in progressive technology; (5) It was possible to confine the acoustical "floating clouds" only to certain areas, so that the sweep of the dome could be comprehended and enjoyed from the interior as well as the exterior.

As there are many ways of doing equally workable things, we made dozens of models. The three-pointed dome, allowing a fan-shaped plan, seemed right in terms of the auditorium requirements. A low dome, coming down to three points on the ground and set, with the chapel, in its own plaza, seemed to be in an appropriate relationship to the multi-story, squarish blocks and high domes around it.

Then, the chapel. There were also a variety of reasons to support the concept of a windowless cylinder for the chapel. This shape implied the self-contained, inward-feeling which was desirable for a chapel of this kind. The undulating walls on the interior were not only necessary for acoustical reasons but would also emphasize the enclosed feeling and add enrichment. The atmosphere of spiritual unworldliness would also be conveyed by the



Portions of the academic procession when the Kresge Auditorium and Chapel were dedicated on May 8.

Representatives of the M.I.T. student body (right) took part in the dedication ceremonies, along with members of the Faculty, the M.I.T. Corporation, and honored guests (above). Both groups are shown entering the foyer of the auditorium on their way to the main hall.



Fortnight Festival Program

Saturday, April 30

8:30 P.M. in the Auditorium
Concert: Mount Holyoke College Glee Club, Professor Ruth Douglass, Director; M.I.T. Glee Club and M.I.T. Symphony Orchestra, Professor Klaus Liepmann, Director.

Monday, May 2

8:30 P.M. in the Auditorium
Concert: Haydn's "Creation," M.I.T. Choral Society and members of the Boston Symphony Orchestra with Helen Boatwright, Donald Sullivan, and Paul Matthen, Soloists; directed by Professor Klaus Liepmann.

Tuesday, May 3

8:30 P.M. in the Little Theater
Dramashop: "The King and the Duke," Francis Fergusson's adaptation of Mark Twain's Huckleberry Finn, directed by Professor Joseph D. Everingham. Incidental music conducted by the composer, Professor Gregory Tucker. Choreography by Nora White Shattuck.

Wednesday, May 4

5:00 P.M. in the Little Theater
Discussion: Representatives of Harvard Debating Society and M.I.T. Debating Society: "The Technical and the Liberal Arts Education."

8:30 P.M. in the Little Theater
Dramashop: "The King and the Duke."

Thursday, May 5

8:30 P.M. in the Little Theater
Dramashop: "The King and the Duke."

Friday, May 6

8:30 P.M. in the Little Theater
Dramashop: "The King and the Duke."

Sunday, May 8

3:30 P.M. in the Auditorium
Exercises of Dedication of The Kresge Auditorium and The M.I.T. Chapel.

Monday, May 9

8:30 P.M. in the Auditorium
Exhibition of swordplay by Joseph L. Levis '26, former United States Olympic Foils Captain and the present United States National Foils Champion; Silvio Vitale, Fencing Master; Edward Somody, Varsity Captain; Harold Miller and other members of the M.I.T. Fencing Group; and guests.

Tuesday, May 10

8:30 P.M. in the Little Theater
The Staff Players: "The Skin of Our Teeth," by Thornton Wilder, directed by Dr. Preston K. Munter.

Wednesday, May 11

8:30 P.M. in the Auditorium
Open meeting of the American Academy of Arts and Sciences: Lionel Trilling, Professor of English, Columbia University. "Sigmund Freud and the Crisis in our Culture."

8:30 P.M. in the Little Theater
The Staff Players: "The Skin of Our Teeth."

Thursday, May 12

8:30 P.M. in the Little Theater
The Staff Players: "The Skin of Our Teeth."

Friday, May 13

8:30 P.M. in the Auditorium
Concert: The M.I.T. Concert Band, John Corley, Director.

8:30 P.M. in the Little Theater
The Staff Players: "The Skin of Our Teeth."

Saturday, May 14

8:30 P.M. in the Little Theater
The Staff Players: "The Skin of Our Teeth."

light: by setting the chapel on arches, formed where the inner and outer walls meet, and placing these in a water-filled moat we could get a soft, mysterious secondary light which would be a foil to the light coming from directly above the altar. A bell-tower seemed the appropriate crown to such a building and we look forward to seeing this element installed this summer.

In thinking of the two buildings in relation to each other, we felt these two shapes were good together, in that they were at once both in opposition and in harmony. The dark brick of the chapel, in turn, is in contrast with the auditorium but blends with the surrounding buildings. We tried to plan the auditorium and the chapel so that they would have a good relationship to each other in the plaza, but also so that the relationship would work were the projected Student Union building to be built to complete the square.

At the completion of any job, the client and the architect have lived long enough together so that the client has pretty definite ideas about the architect. So does the architect about the client. Both Bruce Adams, who was in charge of the work, and I can think of no better client for this job which was a wonderful and interesting challenge.

The Review is happy to be able to present a description of the new buildings and plaza center (page 391) which has been reviewed, in manuscript form, by representatives of those who had most to do with the design and construction of the auditorium and chapel.

Fortnight Festival

As the new Kresge Auditorium and Chapel neared completion, a great surge of activity was planned to coincide with the dedication ceremonies. In fact, a Fortnight Festival of music, drama, lectures, symposia, swordplay, and other events were staged in the auditorium in a pageant intended to emphasize the role of the new structures in the academic life of M.I.T. students and Faculty members. The program of events, which began on April 30 and continued through May 14, is given in the opposite column.

In announcing the Fortnight Festival, John E. Burchard, '23, Dean of the School of Humanities and Social Studies, and chairman of the Festival Committee, said:

"It is appropriate that part of our dedicatory exercises for the new auditorium and chapel sound a note of joy for the new opportunities the versatile Kresge Auditorium offers to our many and varied activities in music and the theater. It is appropriate also that this joy should be expressed in the spring, and that it should be marked by a Fortnight Festival in which many of our student groups will be able to demonstrate the quality of their activities in a new and compatible environment."

The excellent acoustic properties of the auditorium were put to their first public test on the evening of April 30 when the Mount Holyoke College Glee Club joined the M.I.T. Symphony Orchestra and the Glee Club in offering a concert that was well attended by the student body. The musical event was under the direction of Professor Ruth Douglass, Director of the Mount Holyoke Glee Club, and Professor Klaus Liepmann, M.I.T. Director of Music. Two days later, on May 2, Haydn's "Creation" was given in the auditorium by the M.I.T. Choral Society and members of the Boston Symphony Orchestra.

Soloists were Helen Boatwright, Donald Sullivan, and Paul Matthen. Miss Boatwright has been soloist with both the Collegium Musicum and the Society for Early Music in Cambridge, and has participated in Bach celebrations in various parts of the country. Donald Sullivan is tenor soloist at Temple Israel in Boston and in Union Church in Waban. He has had concert and operatic appearances in Boston, New York, Philadelphia, and Washington. Paul Matthen is a foremost interpreter of German lieder, and has been soloist with the Boston, Philadelphia, and Baltimore symphonies as well as with the Robert Shaw Chorale, the Dessoff Choirs, and the Cantata Singers.

Francis Fergusson's play, "The King and the Duke," was given in the Little Theater, on the lower level of the auditorium, for four evenings, beginning on May 3. The experimental play, which is based on Mark Twain's classic "Huckleberry Finn," was performed by the M.I.T. Dramashop. Thornton Wilder's Pulitzer Prize play, "The Skin of Our Teeth," was given by the M.I.T. Staff Players, May 10-14.

Representatives of the Harvard Debating Society and the M.I.T. Debating Society discussed "The Technical and the Liberal Arts Education" in the Little Theater on May 4.

Champion swordsmen participated on May 9 in an exhibition of swordplay that included bouts, demonstrations, and novelty contests. Theatrical dueling scenes from *Cyrano de Bergerac* were presented in modern dress by members of the M.I.T. Fencing Team. M.I.T. students also participated in a tallyho contest, with the participants fencing on roller skates while carrying balloon targets.

Joseph L. Levis, '26, former Olympic foils captain and current United States national foils champion, Silvio Vitale, M.I.T. fencing master and former Italian intercollegiate champion, and Ray Chambers, current Midwest three-weapon champion, who served as master of ceremonies, took leading roles in this unusual event in the main auditorium.

Lionel Trilling, Professor of English at Columbia University, and one of America's leading cultural historians, spoke at a joint meeting of the American Academy of Arts and Sciences and students of M.I.T. on May 11. His topic was "Sigmund Freud and the Crisis in Our Culture."

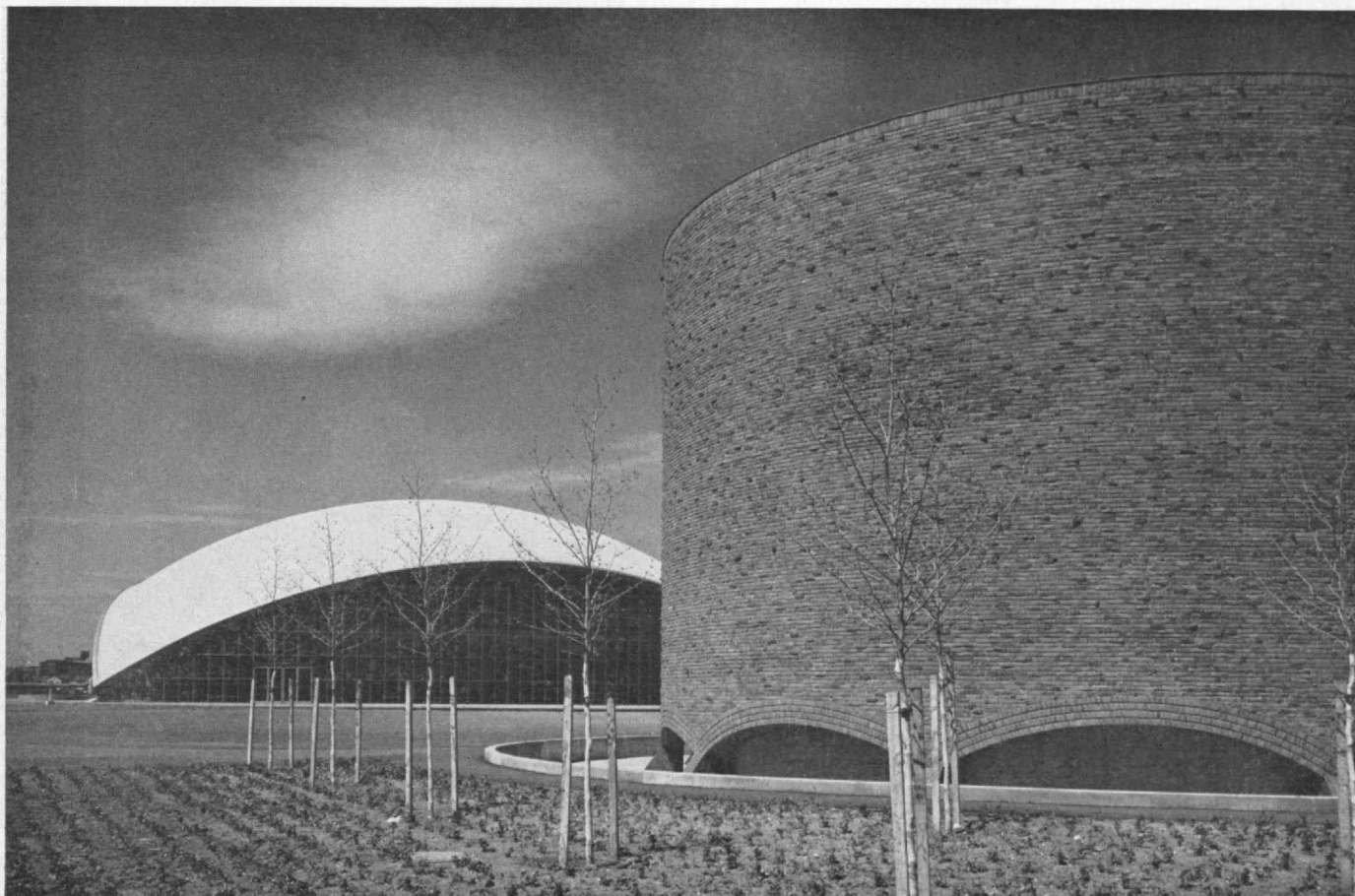
In his address Professor Trilling declared that the defenselessness of the average American against the demands of American culture is becoming a "cause for alarm. We must recognize how open and available to the general culture the individual has become . . ." said Professor Trilling . . . "how unified and demanding the culture has become. . . . We really cannot imagine what it means to take an intellectual chance, or to make an intellectual mistake, or to have a real intellectual difference."

Speaking of current theories of education, Professor Trilling said:

"We come more and more to believe that the elaborate ideology of 'integration with the group,' of 'cooperation,' of 'whole development,' of 'social studies and communication arts' is in effect the highly intellectualized rationalization of some deep anti-intellectualism. . . .

"We know that the intention of this pedagogy is to foster equality and democracy and good will, but

Kresge Auditorium (background) and the Chapel, showing moat and arches.



we begin to perceive that it is hostile to distinction, and to mind, and to accuracy of thought, and at a moment in our history when distinction, and mind, and accuracy of thought were never more needed."

On May 13 the M.I.T. Concert Band, which specializes in original band music, concluded the musical program of the festival under the direction of John Corley. A feature of the program was the premier performance of "Suite for Band" by Ernst Levy, Visiting Professor of Music at M.I.T. Paul Hindemith's "Symphony for Band" was also played for the first time in Boston. While the 70-piece band played on the main stage, the M.I.T. Staff Players gave a performance of "The Skin of Our Teeth" in the Little Theater, directly below.

The double performance provided a good test of the acoustic isolation of the two halls. In the Kresge Auditorium, the main stage is floated on a spongy cushion of fiber glass and the ceiling is suspended from the dome by rubber mounts. Other features which help achieve acoustic isolation and determine the acoustic properties of the auditorium are discussed on page 397.

The first religious service in the new cylindrical chapel was held on the afternoon of May 13 under the auspices of the United Christian Council, made up of representatives from Protestant and Orthodox groups in the M.I.T. community. Regular services of worship are planned for next fall by the United Christian Council, as well as Roman Catholic and Jewish groups on the M.I.T. campus.

The events for the Fortnight Festival provided ample opportunity for all to enjoy the facilities which

the new auditorium, and the Little Theater, on the lower level, now make available to "the Tech family," for not all of the Institute's community of some 12,000 persons could hope to take part in the dedication ceremonies where seats for but 1,200 were available.

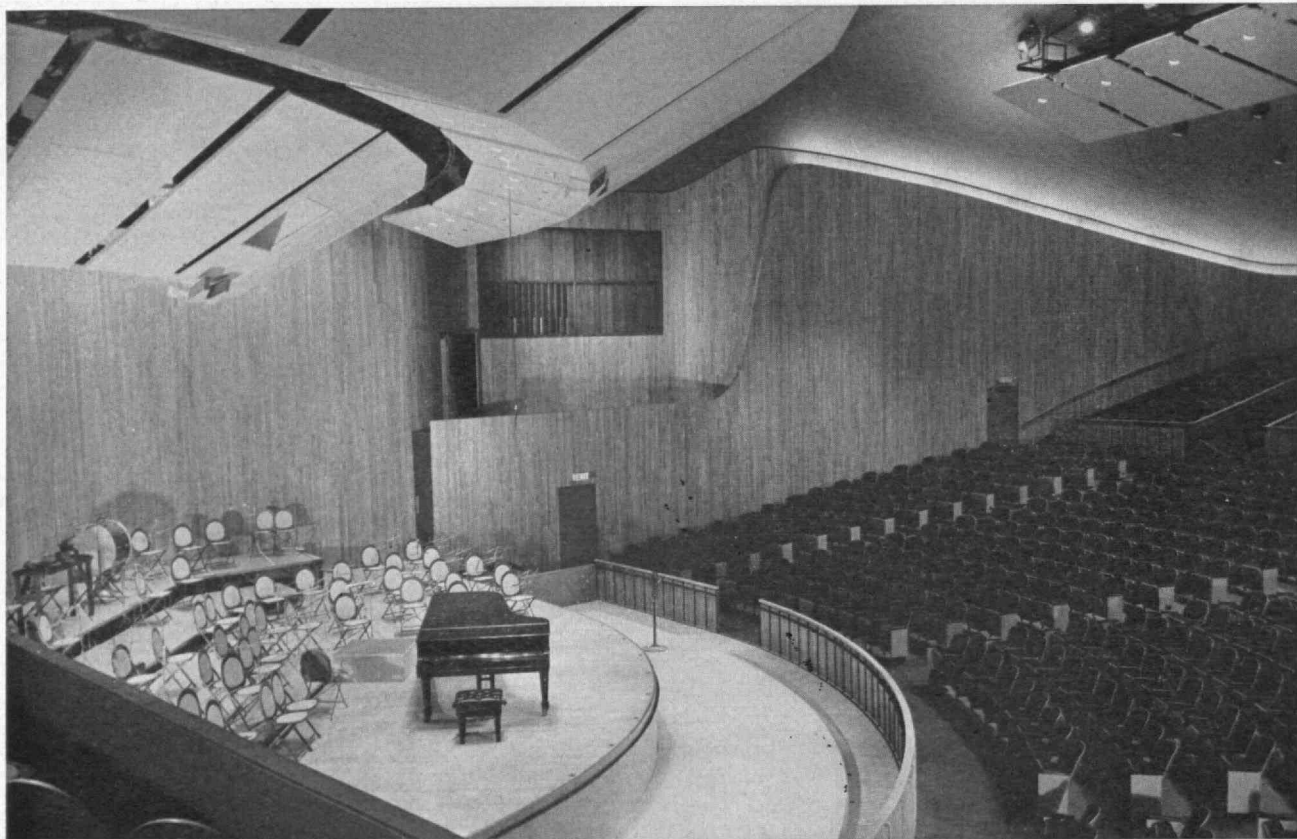
Dedication Ceremony

Promptly at 3:30 on May 8, as the M.I.T. Brass Choir struck up the processional march, several hundred members of the Institute's student body filed through the side aisles and into their seats in the center of the auditorium. They were followed by representatives of the Institute's Faculty from each Department, members of the M.I.T. Corporation, and honored guests. At 94 and 88 years of age, respectively, Godfrey L. Cabot, '81, and Sebastian S. Kresge were the oldest of the honored guests, and had places well in the lead of the procession. Other honored guests included: Howard C. Baldwin, Marshall B. Dalton, '15, Dr. Ferris, Amos F. Gregory, the Reverend Robert C. Holtzapple, President Killian, Stanley S. Kresge, the Very Reverend Monsignor Francis J. Lally, Eero Saarinen, Dr. Van Kleffens, and Rabbi Maurice L. Zigmond. The Faculty Marshals were Professors John T. Rule, '21, and Maurice E. Shank, '49. John S. Saloma, 3d, '56, and Alexander L. Pugh, 3d, graduate student, were Student Marshals.

After the procession, the invocation was given by Rabbi Herman Pollack, adviser to the Hillel Foundation at M.I.T.

(Continued on page 426)

Interior of Kresge Auditorium, as seen from the choir loft.





M.I.T. Photos

The concrete shell of the new auditorium now adds a third element to carry out the dome motif at the Institute.

Structures — Spherical and Cylindrical

*Auditorium and Chapel of Unusual Architecture
Expand M.I.T.'s Cultural and Religious Program*

By THE TECHNOLOGY REVIEW STAFF

IN the olden days, "When M.I.T. Was 'Boston Tech,'" the Institute was known almost exclusively as an outstanding engineering school. Its students were engrossed so completely in technical studies of such intensity as to warrant the statement: M.I.T. is a place for men to work, not for boys to play. Although not always so recognized — even by Technology Alumni — the present M.I.T. is vastly different from what it was a quarter of a century ago, or even a decade past. Today, M.I.T. places substantial emphasis on the "humanities" and science, as well as upon engineering. In the words of President Killian, "It is a university polarized around science" and aims to "educate the whole man." This newer philosophy is reflected in the Institute's ever-changing campus which now has facilities for housing any and all students who prefer to live in dormitories or fraternities in close proximity to the Institute.

The changing emphasis in M.I.T. education is reflected in the changing growth of its campus. As already reported in *The Review* on several occasions, the present tendency is to devote the space east of Massachusetts Avenue to academic buildings and laboratories. In the Institute's long-range planning, the area west of Massachusetts Avenue has been set aside for buildings devoted primarily to housing and recreational activities.

Great plans are ahead for M.I.T. construction in the future. Although at present some of these plans are simply ideals to be worked for, they do, nevertheless, represent a definite aim which guides present construction activities.

Long considered, for example is a plan for depressing Massachusetts Avenue so that traffic will

flow in an underpass about 15 feet below the present street level. When these plans come into effect, a broad sweep of grass plot will extend from the present Rogers Building, across Massachusetts Avenue and westward to a plaza area where, even now, startling changes are taking place. Plans for developing the plaza concept call for the ultimate removal of Bexley Hall, and the Technology Store of the Harvard Co-operative Society. Likewise, they call for razing the present "Tech Block" and for erecting in its place, a group of stores in a modern multi-story Student Center and Alumni Building. The Administration has made no commitments on these changes as yet; at present they are plans for the future which are receiving favorable consideration.

But already the plaza area boasts of two important and significant new structures which were dedicated on Sunday, May 8, during a Fortnight Festival of pageantry of cultural and social events from April 30 to May 14. On the eventful day of May 8, the Kresge Auditorium and the Chapel were dedicated to official Institute use. This outstanding event enabled the Institute to embark on a program in which the religious life of its students will be significantly strengthened. Such an aim is in harmony with the present concept of "educating the whole man" and strengthens the efforts of making M.I.T. a "university polarized around science."

The Plaza

As one leaves the Rogers Building and faces west, he sees — interrupted only by traffic on Massachusetts Avenue — the broad plaza straight ahead on which the new Kresge Auditorium and Chapel are



View of the plaza, as seen from Massachusetts Avenue, with elevated terrace. This photograph was made as the last construction work was being done on the chapel (left) and the auditorium.

now located. Slightly toward the left is the auditorium, with its light spherical dome harmoniously complementing in the recreational area the two domes — atop Building 10 and the Rogers Building — which have long characterized the Institute's academic buildings. To the left of the Kresge Auditorium, and somewhat closer to the main Institute buildings, is the cylindrical-shaped Kresge Chapel.

The broad plaza is about three feet above street level, and is reached by a wide walk which leads from M.I.T. up five or six steps to plaza level. Wide stairs also permit one to reach the plaza level from open space off of Memorial Drive, near the Graduate House. The area immediately surrounding the audi-

torium is seeded with grass, and is free from obstructions of any kind. The area adjacent to the chapel, on the other hand, is planted with London plane trees (similar to sycamores), between which shoots of myrtle already show their violet flowers. At present the trees are diminutive, but in years to come they will provide a quiet shaded area in which the chapel may stand in tranquil seclusion, accessible to, but separated from, and in marked contrast to the busy bustle of academic activity on the east side of Massachusetts Avenue.

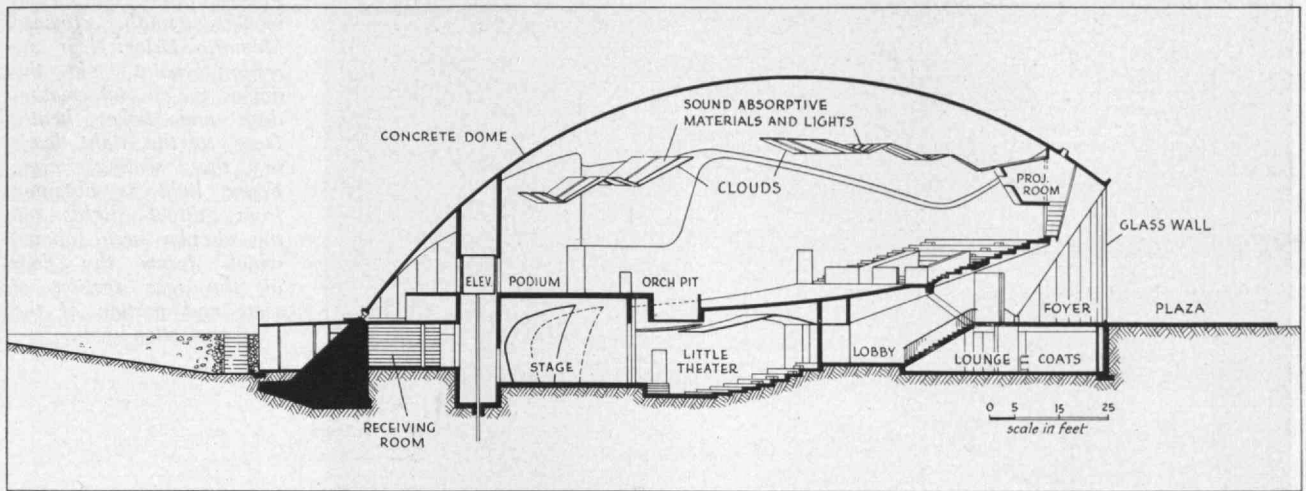
Auditorium Dome

At first glance, the new Kresge Auditorium presents the appearance of a huge white billowing sail of concrete. The dome-shaped structure, which is actually one-eighth of a concrete sphere, is supported at three points of an equilateral triangle by deeply sunk abutments of steel and concrete. At each of these three corners, the dome tapers into an 8 inch \times 8 inch steel pintle which rests on a steel bearing constructed so that the dome can move relative to the ground as it expands and contracts with changes in temperature. As shown in the section view on page 393, the dome rises to a total height of about 50 feet above ground at its apogee: the three points at which the shell rests on the ground are not structurally joined together. Structurally the shell floats free of the rest of the auditorium which is built up from the ground.

If the general appearance of the auditorium is that of a portion of a sphere raised above ground,

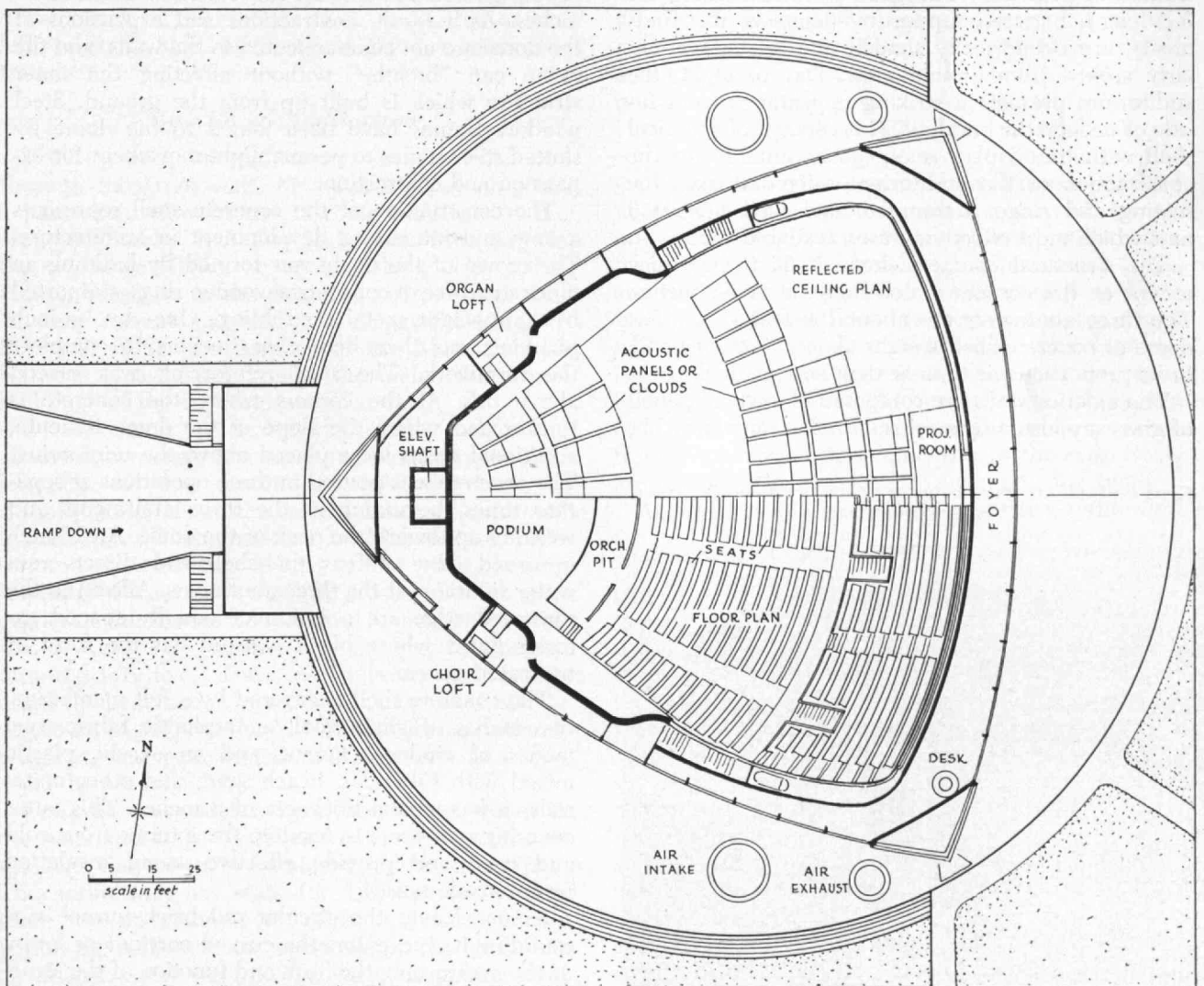
Model of auditorium and chapel gives a better idea of these buildings, and the plaza, than can be obtained from photographs made at ground level.





The new M.I.T. auditorium shown in section view (above). The large assembly hall, at ground level, has seats for 1,200 spectators. When the orchestra pit is raised to level of the podium, about 250 musicians can be accommodated on the stage. In addition, the Little Theater, at the lower level, has seats for 200 persons. These new "meetinghouse" facilities are adequate to accommodate all groups likely to meet at M.I.T. except those in conjunction with commencement day exercises, which, in recent years, have been held in the adjacent Rockwell Cage.

Plan view of the auditorium (below) shows two levels, divided by the axis of symmetry. The floor plan (lower half) shows the seating arrangement with four aisles in forward and five aisles in rear section. The reflected ceiling plan (upper half) shows the distribution of "cloud" panels which are hung from the spherical dome. Although primarily installed as part of the acoustic design, the clouds also conceal lighting and ventilating equipment.





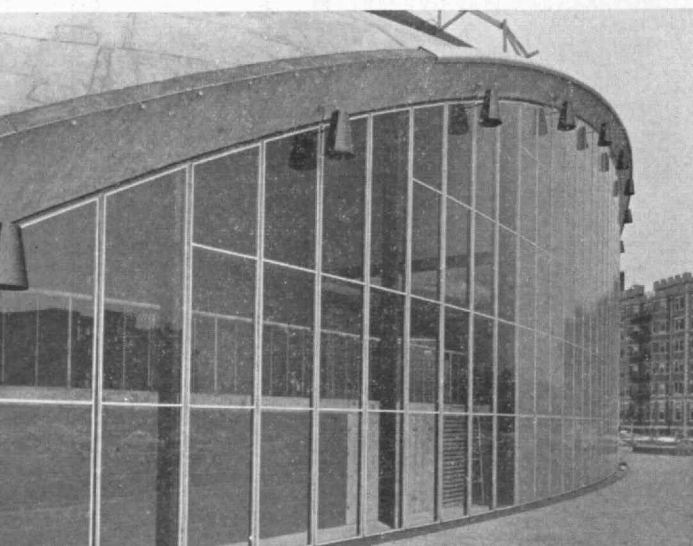
Foyer of the auditorium, looking south, toward Memorial Drive. Near one resting point of the dome is an information desk and ticket booth. Door to the right leads to the seating area. Foyer light is obtained from direct lights in the circular area (above) which forms the floor of the rear section of the seats and portion of the projection booth.

the plan view is trefoil, or an equilateral triangle with outwardly curved sides, as shown in the illustration on page 393. The glass walls, extending the full length between supporting points at the abutments, are cylindrically shaped in plan, and circularly arched from ground view. Day or night, the auditorium presents a striking appearance from inside or outside the building. This concept of spherical shell with trefoil plan is especially suitable for the construction of the auditorium since it makes the seating and stage a complete and well-integrated unit which most effectively uses available space.

The structural concrete dome is $3\frac{1}{2}$ inches thick except at the corners which increase to 18 inches. The three abutments are about 160 feet apart. The dome or concrete shell weighs about 1,500 tons and, in its proportions, is thinner than an egg shell.

The exterior walls are composed of vertical panels of glass supported by steel-reinforcing members. The

Glass walls fill the space between ground level and the spherical concrete dome.



tops of the interior walls rest 4 to 6 inches below the concrete dome. The intervening space is filled by rubber gaskets to allow for movement as much as $1\frac{1}{2}$ inches. As a result, contractions and expansions of the dome are not communicated to the walls, and the dome can "breathe" without affecting the inner structure which is built up from the ground. Steel window frames have been joined to the dome by slotted steel angles to permit slight movement for expansion and contraction.

The construction of the concrete shell represents a new and interesting development in architecture. The crown of the dome was formed by building an inner structure of concentric wooden rings, supported by lightweight metal scaffolding. One- by six-inch planking was then bent over sleepers to complete the formwork. The steel reinforcing was placed above this. At the corners where the concrete is thicker and where the slope of the dome is acute, additional forms were placed above the reinforcing. The concrete was poured in three operations at separate times, beginning at the three abutments and working up toward the peak of the dome. An 18-inch upturned edge stiffens the shell and directs rain water to drains at the three abutments. Affixed to the upturned edge are a group of equally spaced exterior lights whose black housing has the form of truncated cones.

The concrete shell is covered by a felt membrane, two inches of glass wool, an asphaltic fabric, two inches of cinder concrete, and an acrylic plastic mixed with Fiberglas, beach sand, and other materials; it has a total thickness of 8 inches. This outer covering will serve to insulate the interior from cold and heat, and provide effective sound insulation from outside noises.

As one leaves the circular red brick terrace surrounding it, and enters the curved corridor or lobby of the auditorium, the form and function of the struc-

View toward the north, looking toward Rockwell Cage, from the foyer of the auditorium. Architect's model of the auditorium and chapel appears on the farther table near the glass wall. Stairs at the left lead to the lower level where the Little Theater, checkroom, and rest rooms are located. Offices and service and maintenance rooms are also on the lower level.



ture become more evident. The main floor is of red brick, with wall and ceiling color scheme of blue, green, and beige. A large round desk, serving as ticket booth or information desk, is located at the left, or south side, near one of the two main entrances.

Interior of Auditorium

From within the auditorium, as one looks out through the large walls of vertical panes of glass, a panoramic view of the Institute unfolds. To the east, and nearby, is Bexley Hall; then, in order, are the Graduate House, an open parking field, Baker House, Westgate in the distance, and the large athletic and recreational fields, the Briggs Field House, Rockwell Cage, the Armory of the Massachusetts National Guard, and, finally, the main educational buildings of the Institute.

At the center of the corridor in the auditorium, almost at eye level, is a white marble slab with gold lettering. All who descend to the lower level, or casually stroll about the main lobby, are informed by this slab that the building is: "The Kresge Auditorium — The Meeting House of the Massachusetts Institute of Technology. Made possible by the generosity of the Kresge Foundation, founded by Sebastian S. Kresge. Dedicated May the eighth, nineteen hundred fifty five." Thus, in simple words, is recognized the benefaction of a true friend of the Institute whose foresight provides M.I.T. with social, cultural, religious, and educational facilities such as it has never before enjoyed.

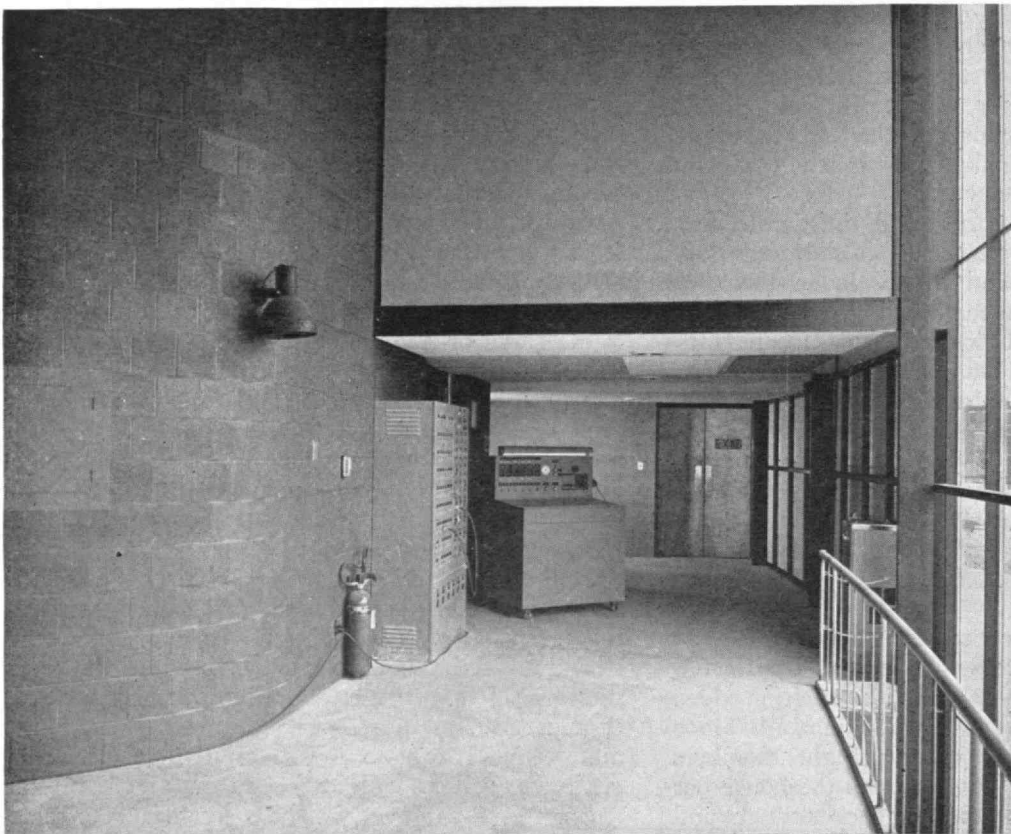
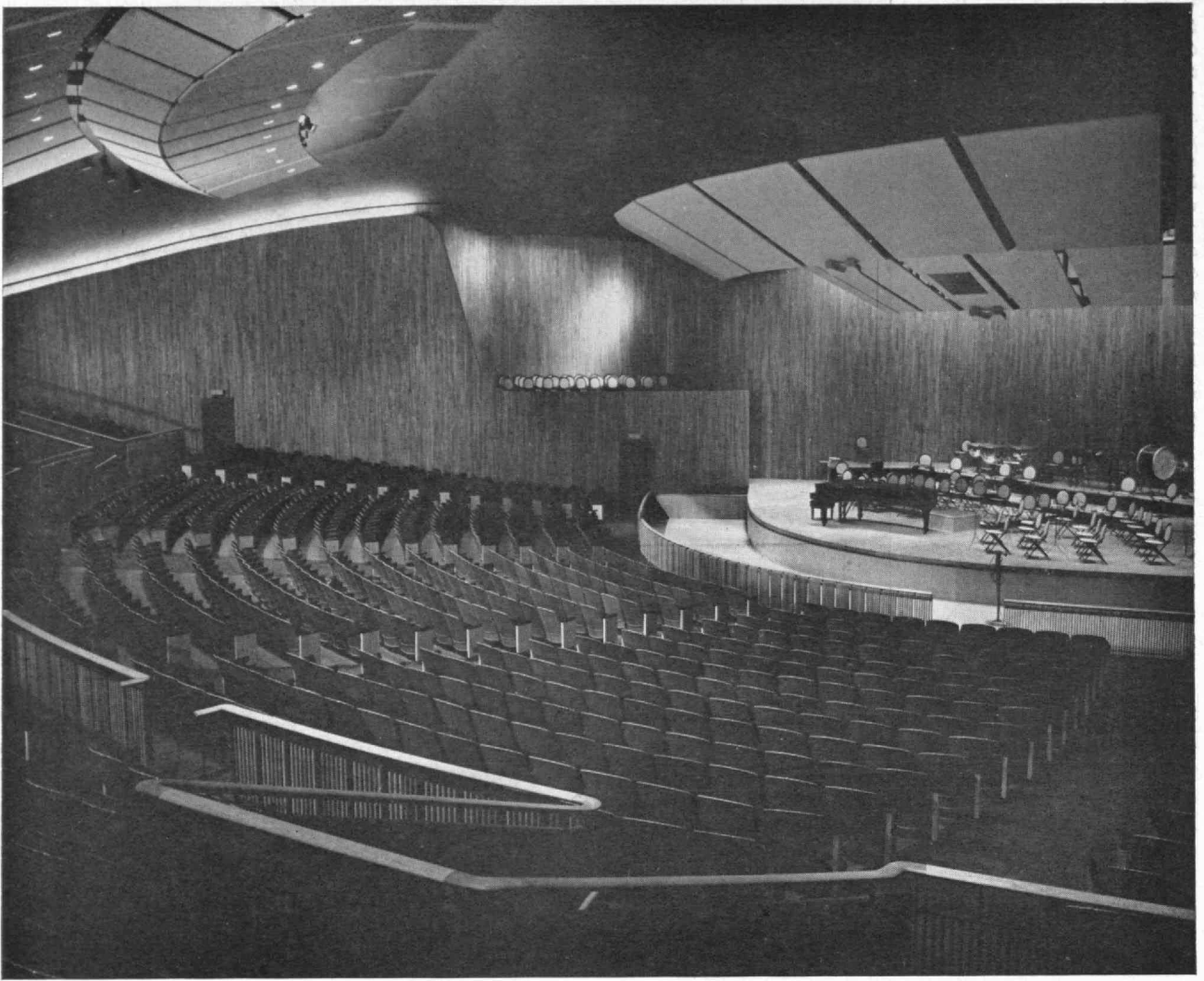
From the glass enclosed corridor, access is had to the seats and stage by several entrances — so inconspicuous they seem to be almost hidden from view. The auditorium has seats for 1,238 persons. Since there are no columns or other upright members within the hall, each and every seat in the house has an unobstructed view of the stage or podium and

its adjacent orchestra pit. The lower level of the auditorium contains a checkroom, lounges, a Little Theater seating 200 persons, two rehearsal rooms, a greenroom, three offices, and necessary service and maintenance rooms. The Little Theater extends about 15 feet into the ground, below the level of the plaza.

The interior of the auditorium is subdued, yet colorful. The blue-gray, dome-shaped ceiling is offset with wide walls of grooved natural oak paneling which is complemented by other woodwork in natural oak. The 1,238 seats are covered with heavy black cloth, and the metal seat bottoms and backs are enameled, at random, in six shades of blue, green, and orchid. Seats are arranged in two main sections, separated by a wide aisle parallel to the rows of seats; approximately as many seats are in the forward section as in the rear portion. There are four aisles in the forward section which lead down from the entrance stairs, and five in the rear. Seats are comfortable, and there is adequate leg room.

At the west end of the triangle of the auditorium is the stage or podium. With a seating capacity of 250 persons, the stage has a curved rear wall of wood paneling. Between the stage and the audience is the orchestra pit, forming a circular arc. When used for normal seating purposes, the pit is at the same level as the floor of the auditorium, but it can be raised to the same level as the podium to increase the effective stage area appreciably.

At the left of the stage is the choir loft which is sufficiently large to accommodate 75 singers, whereas the organ loft is to the right of the stage. To be installed this fall, the large modern organ will be set in such a way that its own working pipes and console compose into an attractive and organized unit in the auditorium. It can be used for individual organ recitals, as well as with orchestra and choir on the stage. This instrument will be a significant addition,



(Above) Interior of main auditorium as seen from north corner of large assembly hall. Effective area of the podium may be increased by raising the orchestra pit to stage level. Choir loft is above Exit sign at end of orchestra pit. Pleasant, soft indirect lighting is obtained from recesses in the side walls. Direct lighting, for audience and portion of stage illumination, comes from light fixtures in the "cloud" panels hung from the dome.

Electrical control panel and console for controlling stage lighting of the large assembly hall.

Side view of the Little Theater, immediately below the auditorium. Side stages are provided for ready change of scenery.

not only to M.I.T. but to the musical world of the time in which we are living.

Acoustic Design

Usually in an auditorium, a ceiling of plaster is dropped below the roof structure. This suspended ceiling can carry lighting and ventilating equipment, and can be shaped — quite independently of the exterior structural form — to conform with acoustic design. A different approach is used in the M.I.T. Auditorium. Here the ceiling is simply the inner surface of the structural dome. The functions of lighting, ventilating, and acoustics are then served by free-hanging panels that obscure only a fraction of the sky-like gray ceiling.

These panels, aptly called “clouds,” are flat rectangular forms, faced with hard white plaster, specially angled to reflect sound usefully throughout the room. The clouds, which fan out from the podium, are concentrated over the stage and over the rear seating area. They carry loud-speakers, ventilating equipment, and lights reached by catwalks.

Sound absorptive material laid on top of the clouds — not on the inner side toward the audience — helps achieve the desired reverberation characteristic. The entire rear wall of the auditorium is also faced with absorptive material behind glass cloth, for additional control of echo. Acoustic design also influenced the contours of wood-paneled walls.

An interesting feature of the cloud construction is that the amount of absorptive material can be increased or decreased to modify the acoustic properties of the room without in any way altering its general appearance, or without requiring any appreciable reconstruction expense.

In any auditorium intended for both speech and music, the multi-purpose of the room presents a challenge to the acoustic designer. A compromise must be effected between brilliance and clarity on one hand and mellowness and blending of tone on the other. In the Kresge Auditorium, a speaker on the platform is heard with high intelligibility at all seats. The auditorium is especially effective for piano solos and small musical ensembles. Orchestral music is very clear, but as one music critic has pointed out, musicians will have to learn how to use the auditorium to give a flawless performance.

Lighting

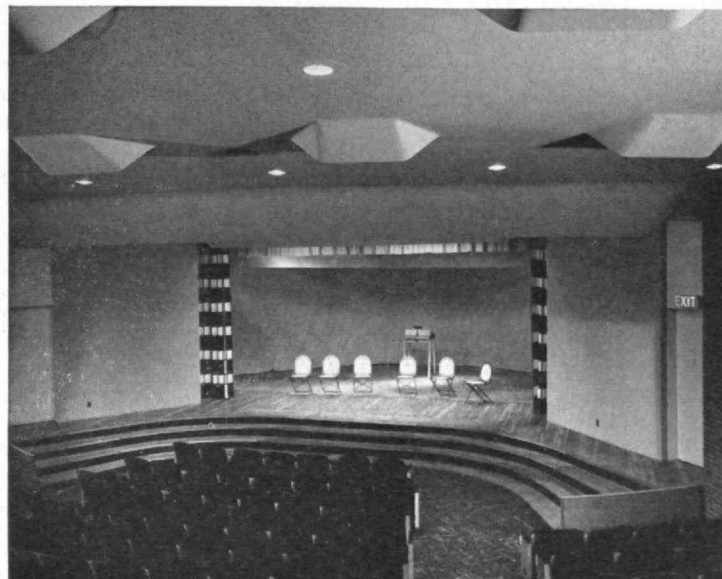
Seeing, as well as hearing, has been given special attention in the auditorium. For general illumination, the entire auditorium may be flooded with

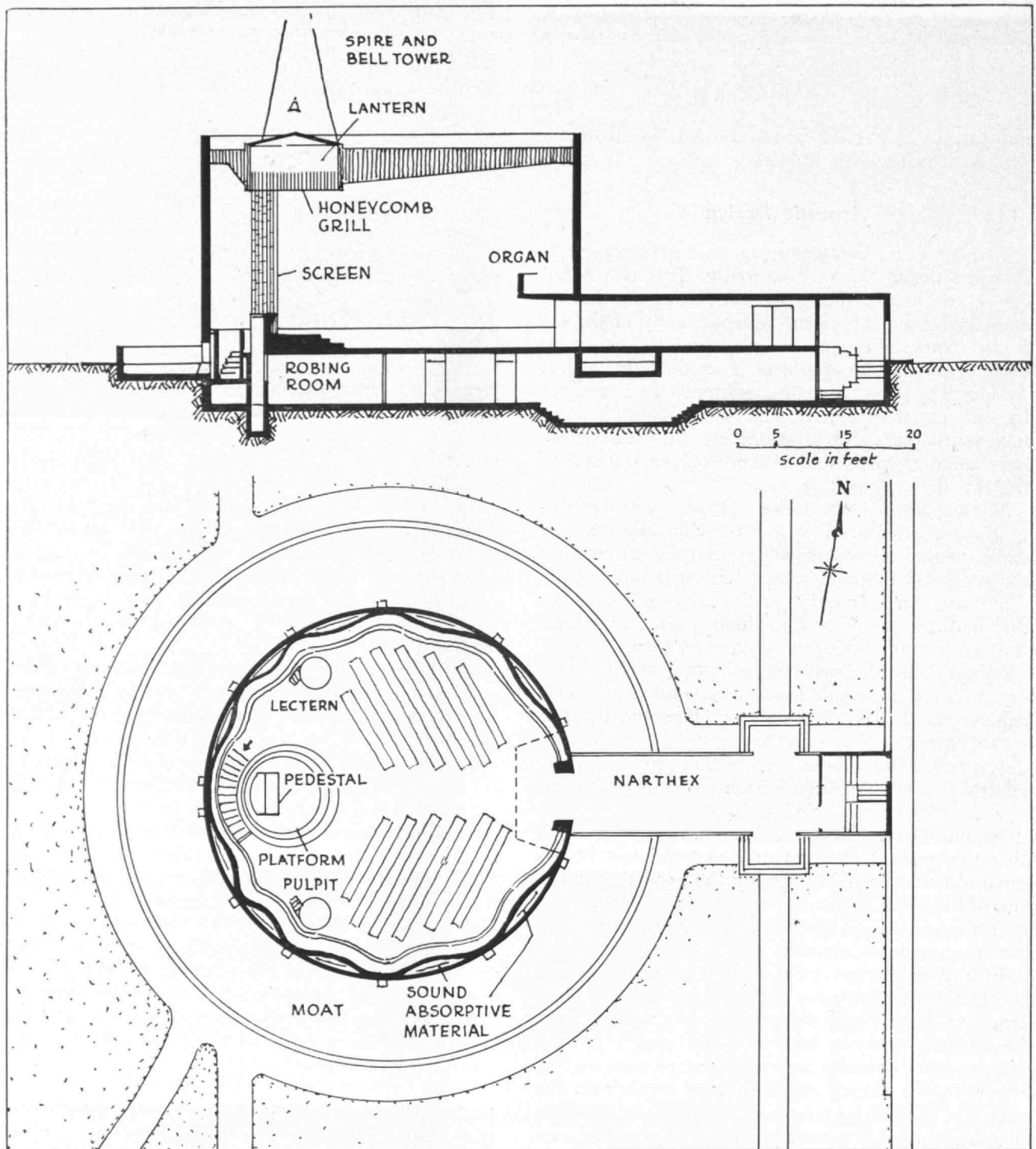
The stage of the Little Theater is well suited to use by the M.I.T. Dramashop and the Staff Players, both of whom have already put the new facilities to good use.



direct, as well as with indirect, light. Soft, indirect illumination is provided by lights at the side walls, between the oak paneling and the spherical dome. During a performance, the light above the audience may be darkened while ample lighting is provided for the podium. Lights, hung from the dome or from the plaster “clouds,” which are provided mainly for acoustic treatment, supply direct overhead illumination.

To the rear of the audience, and well above the seats in the last row, is a large and well-equipped projection booth. From this booth, spotlight beams can be projected for special lighting effects on the stage. The booth is amply equipped with projectors for slides and motion pictures, for either professional or amateur slides and films. The needs of television have also been taken care of, for television cameras and the necessary additional lighting can be brought into operation in the main auditorium. The projection booth also houses audio-control equipment for sound motion pictures, for playing transcribed music, for creating special sound effects, or for speech amplification. Despite the adequate provision for good visual and aural appreciation, however, the audience is not conscious of the presence of loud-speakers or other sound apparatus, and the lighting fixtures are equally unobtrusive.





Section and plan views of the M.I.T. Chapel which will provide new stimulus to Technology's religious needs. A general view of the interior of the chapel is shown in the Frontispiece illustration.

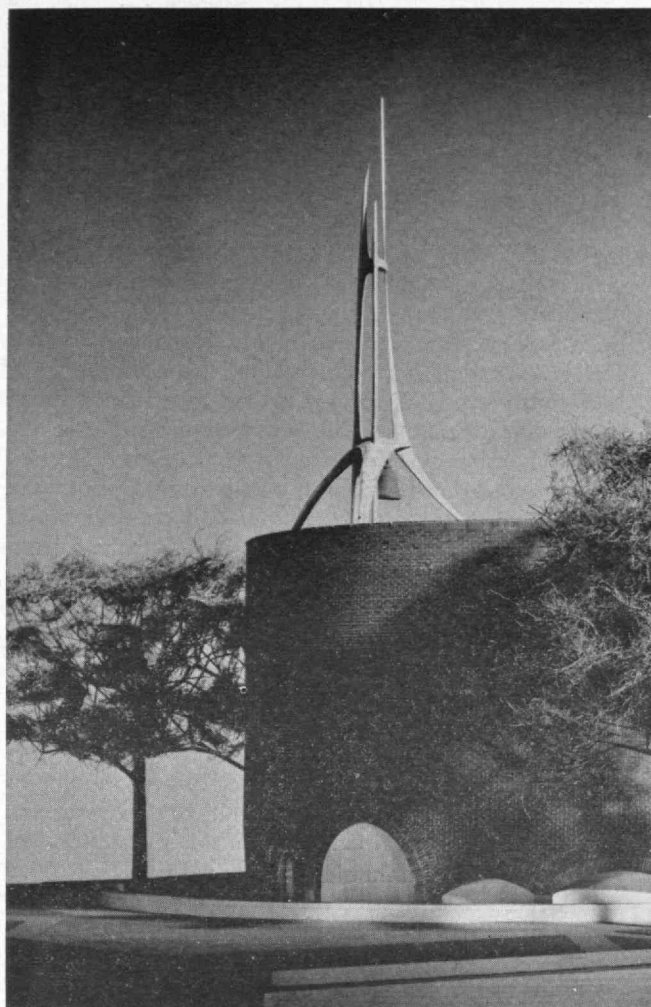
An ample number of vomitories, together with wide aisles, permit the audience to leave their seats quietly and quickly, and walk around the outer corridor during intermissions. Wide spaces between rows, and seats of ample width, also contribute to the comfort of the audience and expedite entering and leaving the performance.

Lower Level

The lower level of the auditorium contains the Little Theater seating 200 persons. Like its bigger brother above, the Little Theater is free of obstruct-

ing members. It contains a stage suitable for plays, with side stages for scene preparation. The theater is sufficiently small and conventional as not to require the unusual acoustic treatment accorded the auditorium. The ceiling contains lights which, pointing downward and toward the stage, provide exceptional theatrical lighting on stage.

The lower level also contains a checkroom, two large rehearsal rooms, a sheet music library, room for service facilities, women's dressing room, men's dressing room, office for J. N. Murphy, manager of the auditorium, office for J. D. Everingham, Director



Model of the chapel, showing the aluminum spire and bell tower as they will appear when erected next fall. The spire will be placed over the lantern (indicated in section view on page 398) from which the chapel receives artificial illumination or daylight for high-lighting the marble pedestal and screen.

Richard Shirk, Bloomfield Hills

of Drama, office for Klaus Liepmann, Director of Music, a greenroom, an instrument room, a freight elevator, electrician's room, emergency generator, and two telephone booths.

The ground level also contains enormous air-conditioning units. The equipment is adequate to provide an ample supply of fresh air to the auditorium and to the Little Theater, simultaneously, and operates with such quietness as to be completely unnoticed by the audience.

The refrigeration equipment which provides summer cooling for the auditorium is used to make and maintain ice on the new skating rink just north of the auditorium. It can keep the rink in satisfactory hardened condition for skating when the outdoor temperature is as high as 50 degrees F.

The Chapel

The chapel has been designed to serve the needs of Roman Catholic, Protestant, and Jewish faiths. Here, as in the auditorium, daring was required to make a complete break with traditionalism in an attempt to provide a retreat for religious services and contemplation in a community bristling with activity.

Externally, the chapel is a structural brick cylinder 50 feet in diameter and about 30 feet high. The plan and section views of the chapel are illustrated in the line drawings on page 398. The surface of the chapel

is of red brick, with occasional twisted elements, providing a rough-textured appearance. The chapel is surrounded by a water-filled moat about 2 feet deep and 12 feet wide, so that the over-all diameter of the moat is about 75 feet. The chapel has no windows, but receives daylight illumination through eight arches of varying diameter, at the base of the outer cylindrical wall. The outer cylindrical shell is supported by the arches which, in turn, are set in the moat. With its bell, an aluminum spire will be erected atop the chapel.

Approach to the chapel is through a rectangular corridor or narthex with sides of neutral gray-stained glass. The narthex is about 50 feet long and crosses the water-filled moat.

The concept of the water-filled moat was adopted to enhance the feeling of isolation of the chapel from the rest of the surroundings. But the moat fills an important role in an unusual interior lighting scheme. Sunlight, striking the water in the moat, is reflected upward into the arches, between the outer and inner cylindrical surfaces or walls of the chapel. Sparkling dots of light dance upon the walls inside when sunlight strikes the rippling surface of the water in the moat.

Chapel Interior

As one enters the chapel from the narthex, the principal item of interest is the large pedestal of

white marble, lighted from above. The pedestal rests on a circular platform about 15 feet in diameter, and is raised above the floor of the chapel by a platform of three raised steps. To the left of the platform is the pulpit, while the lectern is to the right. Above the entrance to the chapel and adjacent to the narthex, is a balcony which contains a small pipe organ. The chapel has cathedral chairs for approximately 130 persons. Seats can be arranged for different functions but will often be placed with a wide aisle down the center from the narthex, and additional aisles along the walls.

Above the marble pedestal is a 12-foot circular skylight (or lantern) and deep honeycomb light baffle providing daylight or artificial illumination. The electric lights in the lantern are directed downward on the marble pedestal. Immediately beyond the pedestal is a screen consisting of vertical rods and gilt metal plates which act as light reflectors for the illumination from the circular lantern immediately above the pedestal. Behind the screen, stairs lead down to the robing room.

The ceiling of the chapel is dropped in a shallow conical shape, which assists in diffusing sound. Lighting, directed downward on the audience, and at the organ, pulpit, and lectern, comes from lights in the ceiling which is painted dark green-gray. The honeycomb in the lantern directs light toward the pedestal without diffusing it into the eyes of those in the first row.

The interior of the chapel is also built of rough red brick. The interior wall is separated from the outer cylindrical structure. Although the over-all

general impression is that the interior of the chapel is roughly cylindrical in form, actually the inner brick wall is laid as a group of irregular plane waves. Introduced primarily for acoustic reasons, this serpentine construction diffuses the sound and avoids focusing it into the center of the chapel. In addition, sound is diffused from the ceiling, as mentioned.

Beginning at a level about 3 feet high and extending to the floor of the organ loft, open brickwork grilles appear at intervals where the serpentine inner wall diverges from the cylindrical outer wall. This open brickwork is backed by sound absorptive material. Acoustically the chapel is divided into a lower level with acoustic absorption, and an upper level, where the untreated brick provides desirable reverberations for organ music.

The separation between the serpentine brick wall and the inner railing is bridged with glass at about waist level. Through this glass, light reflected from the water in the moat plays upon the interior red brick walls. Oak grooved paneling, stained walnut, rises to about waist height. The floor of the chapel is Roman travertine set in a diamond pattern.

The organ in the chapel is in an elevated position above the entry. This instrument is a much smaller unit than that in the auditorium and is comparable in its design to those that existed when Bach was composing. In recent years there has been a return to the purer music consistent with the restrictions of this instrument. One use of the chapel will be to give small recitals with the organ, and possibly a few other instruments, in conjunction with a choir. The

(Continued on page 430)



A small but musically interesting pipe organ is installed above the entrance to the chapel. Open brick grillwork, below the level of the organ loft, is backed by acoustic absorbing material. The upper portions of the serpentine inner walls provide the desired reverberation for organ music.

The Acceptance Address

*The New Auditorium and Chapel Can Be Used to Re-Emphasize
That Scientists and Engineers Must Concern Themselves
with Qualities of Mind and Soul We Call Spiritual*

By JAMES R. KILLIAN, JR.

NO amount of dirty weather can dampen our sense at M.I.T. of joyous realization this afternoon. The dreams, the hopes, the plans of years are now fulfilled, and we welcome you to our celebration and dedication with pride and happiness. In celebrating, it is appropriate that we first give credits to those who brought this about.

"Let us now praise famous men" wrote Ecclesiasticus in the Apocrypha, and then in his list of men to praise gave prominence to the builders, the artificers, the craftsmen, and the workmasters, whose prayers are expressed "in the handiwork of their crafts."

In this spirit we praise today the skilled and imaginative men who created these buildings to fulfill the purposes we intended. Eero Saarinen and Associates of Detroit have been the architects. Because I feel that the creative work which architects do is so often inadequately recognized, I take delight in emphasizing Eero Saarinen's achievement, together with the local supervision provided by the associated firm of Professors Lawrence B. Anderson, '30, and Herbert L. Beckwith, '26. We feel special affection for Messrs. Adams and Wood who worked here on location for their firms.

The architect's concept for this auditorium could not have been realized without advances in the art and science of structural engineering. A thin shell dome stretching almost 200 feet across and enveloping nearly half an acre presented problems of no ordinary kind which could have been solved only by skilled engineers. For their success in solving this problem, I pay tribute to the New York engineering firm of Ammann and Whitney.

It is equally appropriate that I should express our appreciation to the George A. Fuller Company which built the buildings, and to its representatives, Mr. Paulsen and Mr. Bates, who coped admirably with the many complexities involved in their construction. I would speak, too, of Robert M. Kimball, '33, Carl M. F. Peterson, '29, and Philip A. Stoddard, '40, officers of the Institute who have seen the project through for M.I.T., and to James Murphy who manages the building with deep affection for it.

There are many others who played important parts. Other members of the Faculty such as Professors Howard R. Bartlett, William C. Greene, and Klaus Liepmann, and members of the student body served with Professor Richard H. Bolt on the committee that helped set up the specifications for the theater and auditorium. Professor Bolt and his associates of Bolt,

Beranek, and Newman designed the acoustical features of both buildings. The lighting system, so important in an auditorium and chapel, was designed by Stanley McCandless.

Harry Bertoia designed the screen behind the altar, and Theodore J. Roszak was the sculptor for the spire which is to crown the chapel. And finally I cite with particular gratefulness our Building Committee and the Dean of our School of Architecture, Pietro Belluschi, who also serves as architectural consultant to the President and the Executive Committee.

I offer our deep gratitude also to the two Alumni and Corporation members, Alfred P. Sloan, Jr., '95, and Marshall B. Dalton, '15, who led the Development Program to which the Kresge Foundation made its gift and which raised a substantial part of the additional funds to complete this project. How deeply generations of M.I.T. students will be indebted to these two dedicated and generous trustees!

At the end of this program, when Mr. Kresge speaks, I wish then to pay tribute to the donor and express our appreciation to the great Foundation whose generous benefaction made all of this possible.

With these inadequate and incomplete expressions of appreciation to those who donated and created these buildings, let me also add some notes on the educational and spiritual objectives we seek to fulfill through their use.

In architecture and in other fields, educational institutions can be pace-setting patrons of the arts. This they cannot do merely by studying the old, however important that may be. They must also have the courage to create and sponsor the new.

M.I.T.'S RELIGIOUS PROGRAM

An institution which embraces general as well as professional education must give attention to man's spiritual life — to the place of religion in man's history, in contemporary society and in the life of the individual. It also must encourage an understanding of those postulates which underlie our society's concept of virtue — the unifying ideals and standards, the moral and ethical beliefs which men in general agree upon but reach by diverse paths of faith, philosophy or social pressure. The responsibility to deal with these great matters is inherent in any program to educate young people adequately and broadly. Their all-round development requires a growth of the spirit as well as the mind.

— from President Killian's Report to
the M.I.T. Corporation, October, 1954

An institute of technology, especially one with the oldest school of architecture in the nation, has a responsibility to innovate in its architecture in the same spirit that it seeks scientific innovations in its laboratories. Its intellectual resources and outlook, furthermore, permit it to be bold and advanced in the design of its buildings in a way that other institutions might not be able to justify. The extravagant statement has been made that only M.I.T. would have had the self-assurance to build this domed auditorium and the round chapel. This statement gives too much credit to M.I.T., but it does make the point that this kind of institution has special resources and reasons to build boldly and experimentally. It is my own view that while cherishing and preserving all that is fine of the old, we can no longer justify antiquarian architecture for the new. Instead of our campus architecturally becoming a "museum of caution and paralysis," its buildings each should express the best methods and materials and the best aesthetic ideas of the periods in which they are built.

Architectural innovation is accompanied by controversy and reveals deep divergencies in taste — and here I speak knowingly. This is the price of creativity in the arts, and we should be willing to risk the controversy in order to achieve a mutation in taste or to afford the searching, creative minds of our time an opportunity to try new solutions.

Transcending the architecture are the uses of the building. In ordering and organizing its community life, the early New England town built a meetinghouse and centered there its civil and religious life. It was a house of many uses. There the men and women went to worship God, to hold their town meetings, and to further their cultural and civil interests. The meetinghouse was the nucleus around which formed concepts and traditions of civility, of social organization, of religious life, community responsibility, and self-government.

In visualizing an auditorium for M.I.T. we sought a building to provide a similar nucleus for our academic community, especially for our student body. We felt it would be proper and possible to design a building which would be appropriate for worship, for academic ceremonials, for educational meetings and conferences, for music and drama, and for the maintenance of M.I.T.'s civil life.

In this sense, the Kresge Auditorium serves as M.I.T.'s meetinghouse. With the auditorium, its associated devotional chapel, and with the new student union we hope some day to build on the north side of the plaza, we shall have here grouped about our plaza, or common, those buildings which will provide for the extracurricular life of our students and Faculty. Already the auditorium has brought a quickening of our community life and given new impetus to the extensive musical and dramatic activities of students and staff. It is significant that the first conference held in this meetinghouse was one initiated and superbly managed by our student government and dealing maturely with the problem of discrimination and selectivity in colleges.

While the auditorium can be used for religious meetings involving large numbers, the devotional chapel will serve smaller groups as a building designed exclusively for religious use. It gives, as the inscription reads in the chapel, embodiment to the responsibility of the Institute to maintain an atmosphere of religious freedom wherein students may deepen their understanding of their own spiritual heritage, freely pursue their own religious interests, and worship God in their own way.

In addition to the civil, the educational, and the spiritual interest which they serve, the auditorium and chapel emphasize two other important aspects of our institutional mission and responsibility.

First, they express, in our modern way, the conviction that beauty and benignity and nobility of environment are as important influences in education as Plato long ago said they were. Beauty of environment should be as indigenous to this kind of institution as the more traditional kind of university.

Second, the spirit behind these two buildings reaffirms the unit of knowledge and of creative activities. Science and art spring from similar creative impulses and serve to strengthen each other. In the deepest sense, the liberal and humane outlook is inherent and essential in the domain of science as it is in other fields of learning. These buildings can be used to re-emphasize that science properly used is a great moral and liberating force and that the scientist and engineer, full as much as other professional men, do and must concern themselves with values and virtue, with those qualities of the mind and soul which we call spiritual. All these great matters are the concern of this institution and are natural parts of its educational mission. They reflect the new synthesis of educational tasks and ideas that has been taking place at M.I.T. as it moves steadily and inevitably toward a new kind of institution indigenous to American society and serving its needs and ideals in a new way.

In accepting and dedicating these buildings, then, we do something more than mark the completion of two structures. We celebrate the generosity and public spirit of the donors. We celebrate the ideas, ideals, and aspirations which these buildings are intended to further and to serve. We reaffirm the kinship of scientific, aesthetic, and spiritual values in our corporate life. We celebrate powerful new concepts in education.

A century and a quarter ago, Wordsworth wrote these lines, which might appropriately be inscribed in the chapel we dedicate:

They dreamt not of a perishable home
Who thus could build. Be mine, in hours of fear
Or grovelling thought, to seek a refuge here;
 . . . or let my path
Lead to that younger Pile, whose sky-like dome
Hath typified by reach of daring art
Infinity's embrace.

In these lines, inspired by King's College Chapel at Cambridge University, England, we find the appropriate note for this joyous occasion of appreciation, dedication, and affirmation, in Cambridge, Massachusetts.

The Dedicatory Address

*Technological Studies, Intelligently Directed, Can
Provide an Environment for Deepening
Our Sense of Spiritual Values*

By E. N. VAN KLEFFENS

THERE is no doubt that the dedication of the two remarkable and remarkably beautiful buildings to be inaugurated here today constitutes a very significant event in the admirable history of M.I.T. You have honored me by expressing the wish that I give the dedicatory address on this auspicious occasion. Gladly have I crossed the Atlantic to comply. I would have done this, and with pleasure, even if nothing but the buildings were concerned, deserving, as they do, the admiration of all. But what made me twice eager to accept was the deeper meaning of these two impressive manifestations of contemporary architectural art. I do not know whether it lies in my power adequately to express their significance, but I shall do my best.

First, the buildings as buildings. As deviations of the conventional post-and-beam construction, and breaking as they do with the traditional oblong or, in the case of the auditorium, angular wedge shape, both structures are a bold challenge to established forms and habits of thought. Far from being the product of an architectural whim or caprice, they are the outcome of much original and daring thought, in the field of aesthetics as well as in that of function, logic, construction, and economics. They mark a date, and perhaps an era, in architecture, and, broadening in just proportion an opinion expressed not very long ago in an American professional magazine, I feel justified in saying that "the world's architecture and building are not likely to be quite the same after M.I.T.'s new center is finished." They are the fitting adornment on the campus of an institution devoted to advancing the boundaries of knowledge — creative, pioneering, respectful of acquisition, avid of improvement.

Consider the chapel. It has an unfamiliar cylindrical shape. Is that a design unfamiliar for its own sake, new for the sake of newness, astonishing merely to attract attention? Far from it, and I feel sure that even the many who do not know will share with those initiated the experience that the rounded shell, giving a sense of protection through enclosure, is in keeping with that feeling of inner security true religion imparts to the fortunate faithful. The unearthly light pervading the interior, most ingeniously obtained, takes our thoughts to purer and more enduring spheres, the beam shining from on high on the altar, relating it to its sublime significance, and providing a focus without which there would be no fixity, no concentration, no promise of peace for the confused and troubled soul.

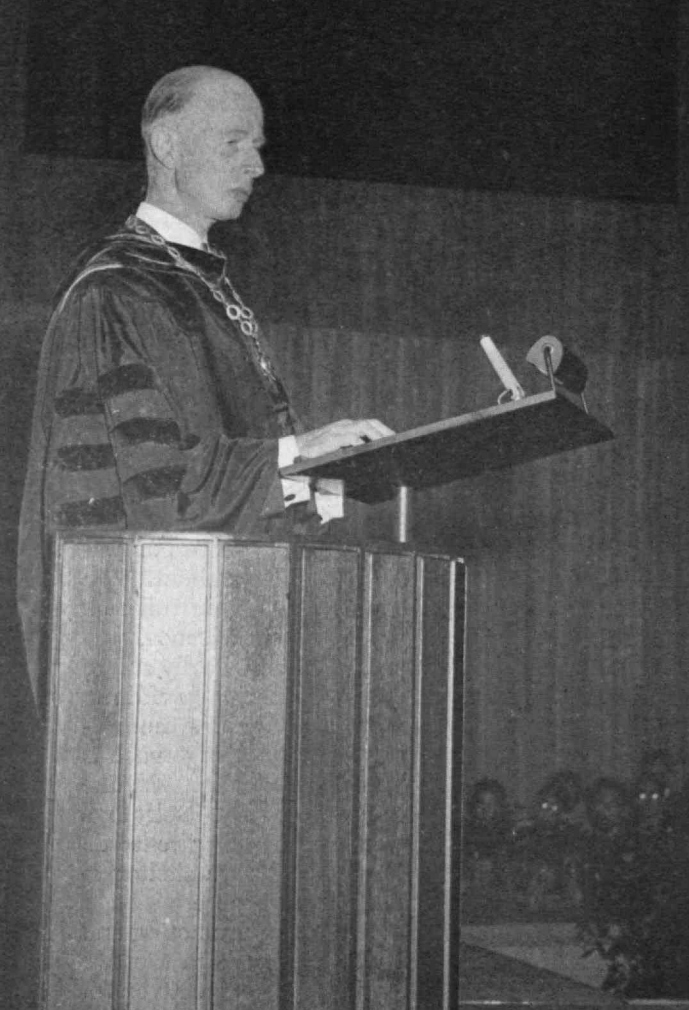
Second, the auditorium. Its shape aims at bringing together audience and speaker, at promoting that contact of minds and senses which in more conventional halls it is so often difficult to bring about. Who will deny that Mr. Saarinen's talent, given full rein thanks to the Kresge Foundation's munificence, succeeded in conceiving a building which, ideally suited for many purposes, contrives to combine usefulness with lightness, and space with grace? The nonsectarian chapel serves one purpose only, though each is welcome to worship according to his creed. The auditorium has been designed to adapt itself to a great many functions, its multivalence being reflected in the dome — a shape which could give shelter to any surface of its size regardless of purpose.

There is a third essential: the plaza, promoting and determining balance and harmony between the two buildings, placing each in its proper perspective. Together with the chapel and the auditorium, it forms an organic whole. Trees are to soften outlines and screen excess of contrast. Such is the aggregate, pleasingly offset by surrounding campus buildings.

This summary description is no doubt very incomplete and, like any description of beautiful buildings, fails to do them full justice. Description can be no substitute for personal inspection, let alone for the work of art described. In any case, I trust I did not commit the sin of weakening by exaggeration. But, however that may be, I hope that even a distant listener or a casual reader will sense that these new ornaments of the M.I.T. campus are not mere glorifications of material achievement. They are, in fact, expressions of spiritual values of the highest order, and this is why they are elements characteristic of an essential and most important feature of what the Institute stands for. They also hold an impressive warning in the dark and dangerous times the Western world is traversing. Let me explain.

There is a danger inherent in technological education and research of which those responsible for the future of M.I.T. and of its Alumni fortunately are well aware. The danger lurks not so much in what is ascertained by the student as in its application and in the mentality it may create.

If I may begin with a dangerous mentality technological education and research can create, let me invite your attention to the fact that they may lead to an undue narrowing of belief and faith. A state of mind may be induced in which no place is left for belief except in what we see demonstrated in the test tube. This is a grave and noxious error. There is a



M.I.T. Photo

In delivering the dedicatory address in the Kresge Auditorium on Sunday, May 8, His Excellency, E. N. van Kleffens, Minister of State of the Netherlands stressed the need for high moral values in using knowledge which man achieves.

sight of the boundaries which limit its application. One of the dangers of science is that it may make man forgetful of divine and human laws.

We are brought face to face here with very old truths and findings. The idea of a natural law, immutable and perennial, the foundation of what is meet and just, found in the human conscience and binding all human beings, a law no human authority can change and from whose validity there is no escape, is of great and venerable antiquity. Those in ancient Greece, who, losing sight of what behooves Man as being just and lawful, were guilty of overweening pride, fell victim to the vengeance of the Gods; Hesiod wrote about it, and it is a frequent theme in the great Greek tragedies. In the Bible you find a kindred idea: those who break the Lord's Covenant provoke his wrath: thou shalt not tempt the Lord thy God, says the Old, as well as the New, Testament. In addition to these divine laws, there are the man-made enactments. All this means amongst other things — and it undoubtedly is a truth as valid today as it ever was — that man may not do with his knowledge as he pleases. There may be no boundary to what he may discover, but there is a boundary to what he may do with the discovery.

These divine and human laws which set a boundary to what man may do with his scientific discoveries are something science cannot reveal to him. The reason is simple. Science is concerned with cause and effect, but not with norms, that is, rules for what is — and what is not permissible or lawful. To ascertain these rules, which are naturally of vital concern to every human being and to every society of human beings, the scientist must turn elsewhere, to the sacred places where these norms come to the surface: to religion, to law, to philosophy, including ethics and aesthetics. That is why, next to religion, the scientist, if he wants to be sure of remaining on safe ground, is in need of a study of what in M.I.T. is called the Humanities, and it is the great merit of your remarkable Institute that it has discerned this great and important truth from the first. Undoubtedly, study of the humanities will also help to bring about a solution of the many social problems arising in an industrial age of rapidly increasing automation, problems which in their aggregate may soon demand the highest form of precautionary measures in a very wide field if disturbing maladjustments are to be prevented in our complex modern society.

Religion and study of the humanities, as well as a recognition of their compelling importance if all is to go well with us, and if we are not to be the victims one day of our own inventiveness, seem all the more necessary when it is recalled that, whereas in all Western — and in several Eastern — countries the domination of matter has made great progress, no one can say that anything like comparable progress has been made in curbing more primitive urges within our nations and ourselves towards self-assertion and expansion at the cost of others. The Soviet

great deal of truth and faith, as we know them in our hearts, which is incapable of scientific demonstration. One of the glories of science is that, by reducing somewhat the immense areas of human ignorance, it has also reduced superstition, bias, belief in sorcery and witchcraft. But there remain the great Verities which are taught by religion — incapable of scientific demonstration, but nonetheless true. The difference between good and evil cannot be expressed in any scientific formula, and yet all human beings, irrespective of race or creed, know its existence, a revealed fact of the first order. Let the new chapel, and also the auditorium, remain a constant warning that, just as technology cannot exhaust truth, it is not qualified, and therefore should not attempt, to monopolize belief.

In the second place, a word about the danger which technological studies may create in respect of the application of their findings.

From one discovery, science has moved to another, especially in the course of the last century and a half, during which the pace has singularly quickened. This unbroken record of achievement is apt to engender a state of mind in which nothing seems impossible to man. He thereby tends to become a law unto himself, the measure of all things, pushing further and further into the Vast Unknown, and the heady wine of his success may well lead him to believe that he is not only at liberty to pursue his discoveries, but also to apply what he has found according to his will. Seeing no boundaries to knowledge, he may lose

Union seeks to enslave the world. We of the West do not want to enslave anyone, but do we (not just one country, but many) not often ask (to give only one example) for protection of some national branch of industry regardless of the fact that thousands of families in other countries may thereby be thrown out of work? This example may be multiplied.

So far as the humanities are concerned, their task is, it seems to me, essentially to give a sense of measure in all things, and a better perception of what is reasonable. It is therefore that they exert such a marked civilizing influence. The constant application of reason, truly a great acquisition, has had its ups and downs in the course of history. In France in the Eighteenth Century, for instance, it played a leading part, and so it did, not without the influence of French civilization, in the young days of your great Republic. But then a reaction set in: feeling, by nature rebellious to restraint, was enthroned sometimes next to, but often above, reason and measure; it cannot be said that this reaction has entirely spent its force even today. There is, of course, no doubt that feeling should have its due share, so long as it does not gain the upper hand, for its mainsprings are obscure and unfathomable, and it is therefore liable to lead to excess—the very counterpart of reason and measure which are its natural moderators. Certainly in an age in which technological power can so easily and so dangerously be allied to unbridled feeling, it is of the highest importance that measure and reason, those beneficent gifts of the Gods, should be restored to the place of honor which has so frequently been withheld from them.

All these considerations apply with particular force now that advanced technology has found the means to split or fuse nuclei of certain atoms. For we have now forces at our command which, if wrongly applied, may bring about the destruction of the human race, and perhaps even changes in the cosmic structure of the universe, with incalculable consequences. Even if applied on a smaller scale, reason, and not feeling, should dictate their use. Applied for peaceful purposes, these forces can be a blessing to the human race which sees other sources of energy dwindle. So far as their application for welfare is concerned, I must leave to those responsible the unenviable task of defining the circumstances in which their use would be justified. All I can say is that it is by cultivating reason and self-restraint that we can find our way in the disturbing perplexities which the inventiveness of our own age has put on our path.

It is therefore, as I said, most fortunate that M.I.T. has from the beginning discerned the importance of religion and of the humanities. Of that importance, the chapel and the new auditorium are eloquent symbols. Technology, the never-ending quest for the betterment of human existence, was born with the human race; it is natural to it. But if technology is to assist and not to overpower us, if it is to remain a blessing and not to become a curse on all our houses, a disciplined servant and not a purblind master, then we have to submit it to the tempering influence of the norms of faith, of insight, and of duty.

So far for the fundamental decision of M.I.T. to give religion and the humanities their due place in

students' activities, and the symbolic illustration of that decision in the form of the new auditorium and chapel.

Let me say a word about the spirit in which that decision has been carried out.

There was, in this respect, an obvious choice between two systems. One was to opt for a dogmatic approach, for something like an M.I.T. state religion. Nothing (if as a foreigner I may say so) could have been more un-American. And since M.I.T. is one of the manifestations of Americanism at its best, it chose the other system, based on that broad tolerance which is one of the mainstays of your great Nation. Strange as it sounds, there yet is no doubt, and there have been several examples in history, of the fact that, in favorable circumstances, a position of strength may be built up on a basis of intolerance. But the United States, and M.I.T. in particular, have shown that a most profuse flowering of the arts and sciences can be fostered on a basis of live and let live, tempered only by a happy and due regard for common decency and public order. It is in this spirit that M.I.T. has from the beginning wanted the Faculty and students to think for themselves, believe for themselves, speak for themselves, realizing that "*du choc des opinions jaillit la vérité*." We breathe here the fresh, unstifled air of free thought, free inquiry, free expression, and we are face to face with the care of scientific liberty, the essence of our Western tradition. The doctrine which pervades the Institute in this respect has been admirably and authoritatively stated by the Corporation Executive Committee; it may be summarized as follows: no regimentation or control which dictates to scholars the opinions and doctrines they must follow—diligence and loyalty in citizenship, without hidden allegiance or obligations necessitating distortion of research or teaching in accordance with dictates from without.

The chapel, far from being sectarian, is open to all faiths and creeds. As your President has stated recently, its purpose is twofold:

"*first*, to stand as a symbol of the place of the spirit in the life of the mind and as a physical statement of the fact that M.I.T. has a right and a responsibility to deal with ideals as well as ideas and to be concerned with the search for virtue while we become proficient in the search for things; *second*, to provide ready opportunity for students and other members of our community to worship as they choose, to have on campus a building, beautiful and evocative of reverence and meditation, where those who wish may enter and worship God in their fashion."

There will be no special privilege for any faith; that its use should give no legitimate cause for offense to others is guaranteed by the spirit of mutual forbearance so characteristic of this great seat of learning. Its dedication today is a humble acknowledgment of powers greater than that of man, an act of reverence for the Creator of that immense and majestic universe we understand so little in spite of all our progress.

The auditorium will serve, as I said, many purposes. Any appropriate activity worthy of being carried out here is welcome.

(Concluded on page 434)

The Affirmation

The More Power Science Places in the Hands of Man

the More He Needs a Sense of Moral Value

to Guide Him in Use of That Power

By THEODORE P. FERRIS

WE have come here to dedicate two buildings, an auditorium and a chapel. A new building is not by any means an unusual sight; almost everywhere you look you can see a building either in the process of construction, or just completed. But these two buildings are different; they are a sign of something.

They are a sign of a change in climate, and I do not mean a change in the weather. I mean a change in the atmosphere of our whole approach to life. Not so long ago we thought that man was the master of life's mysteries. We made such tremendous strides in our understanding of the natural universe that we presumed to think that there was nothing beyond the reach of our inquiring minds. Science unlocked so many doors in the skies above, and in the earth around and beneath us, that it was led to believe that there was no mystery which in time it could not comprehend and no riddle which, if given the brains and the patience, it could not solve.

Times have changed. The doors that science so graciously opened have led us into mysteries far vaster than our fathers ever dreamed of, and instead of solving the riddle of life, it has extended it to include not only ourselves and our strange and unpredictable ways, but also the origin and the meaning of life itself. When we consider the heavens, we see more than the moon and the stars. We see solar systems and constellations that the psalmist never imagined, but when we look at man and ask what he is, and why he is here, and where he is going, we know little more than the poet of Palestine.

Indeed, we are beginning to see that he knew some things that we had forgotten. He knew that the ultimate mystery of the universe in the long run escaped him, and he was humble before it. He knew that everything we are, and ever hope to be, is derived from sources outside ourselves and over which we have no final control. He knew that any meaning we may ever find in life must be found in the God from whom all life comes.

These buildings, especially the chapel, are a sign that we are beginning to see that we have not by any means outgrown the primeval knowledge of the psalmist; that over and above all our efforts to understand the majestic operations of the universe, the Ultimate Reality remains, ineffable though not unknowable, with which man must come at last to terms. This is the religious view of life. It does not contradict the scientific view of life any more than

the engineer's approach to a problem contradicts the artist's. The two go together hand in hand. Religion without science is almost sure to become superstition, and science without religion is almost as sure to become a lifeless skeleton of facts and figures.

An article in the *New York Times* recently commented on the Trans-Atlantic Broadcast Anniversary. The writer reminded us of the words we so often heard in those early days of transatlantic broadcasting: "Due to atmospheric conditions over which we have no control our commentator from Paris will not be heard at this time." Then he went on to say: "The phrase had and still has a ring of adventure to it, a graceful submission to larger forces." The chapel which we are dedicating today is a sign that the leaders of one of the greatest scientific schools in the world are aware of the fact that there are "larger forces" to which man must make, sooner or later, a graceful submission.

It is also a sign that they recognize that man is a more complicated creature than perhaps they once thought him to be. Psychologists and physiologists cannot completely analyze him or explain him, and all the engineers, mathematicians, physicists, and astronomers in the world cannot ultimately satisfy him. Man cannot live without bread, but neither can he live on nothing but bread. He is a strange mixture of dust and divinity, of impulse and imagination, and any attempt to educate him must take both sides of his nature into full account. The more scientific training he has, the more he needs the complementary cultivation of his heart and spirit. The more power science miraculously places in his hands, the more he needs a sense of moral values to guide him in the use of that power. It takes more than engineering skill to build a good bridge; it takes also the moral determination that the bridge be safe, and the artistic desire that it be beautiful.

It is this sense of man in his wholeness that has moved the President and Corporation of the Institute to go forward with these buildings. The buildings in themselves are not important, save as they make possible a fuller and richer experience for the men who come here to study.

The use of the buildings is a matter of great interest to those who are closely associated with the Institute. The use of the auditorium is more or less self-explanatory, but the chapel is different. As I understand it, the officers of the Institute have no pre-

(Concluded on page 432)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

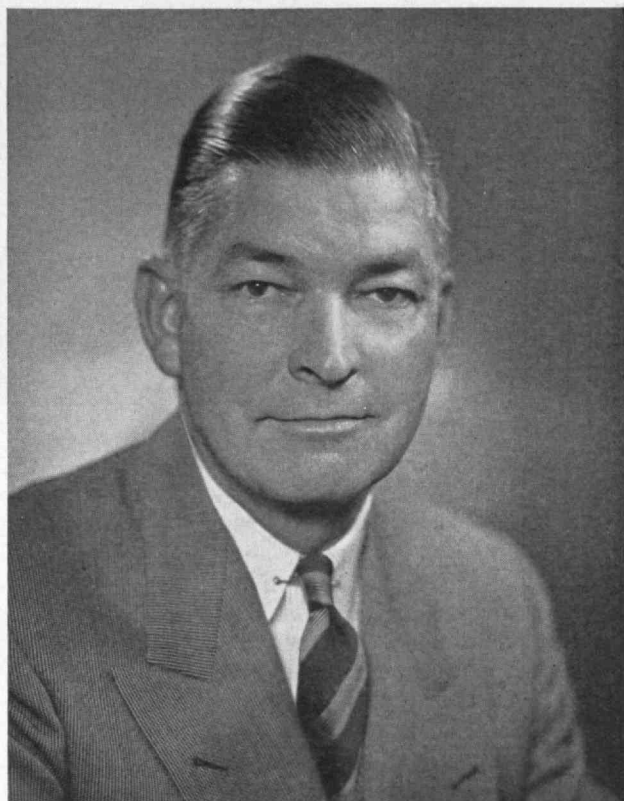
Election Returns

ON April 25, when ballots closed for the election of officers of the M.I.T. Alumni Association, 3,904 members of the Association had availed themselves of the opportunity to elect Dwight C. Arnold, '27, as president of the Association for the year beginning July 1, 1955. John J. Wilson, '29, was elected vice-president for a two-year term, and Chenery Salmon, '26, and D. Reid Weedon, Jr., '41, were both elected to serve on the Executive Committee for two-year terms.

Alumni term members, to serve on the M.I.T. Corporation for the next five years, are Max L. Waterman, '13, Fred C. Koch, '22, and Hugh S. Ferguson, '23 — currently president of the Association.

Alumni elected to serve on the National Nominating Committee for the next three years are as follows: *District 1* — Horatio L. Bond, '23; *District 2* — Robert C. Erb, '17; *District 4* — Harold Chestnut, '39; and *District 5* — Clayton D. Grover, '22.

Elected to serve on the Alumni Council as representatives of their classes are: Godfrey L. Cabot, '81; Arthur T. Chase, '86 (deceased — as this issue goes to press); Harry H. Young, '91; John A. Rockwell, '96; Willard W. Dow, '01; Edward B. Rowe, '06; Orville B. Denison, '11; Joseph W. Barker, '16; Henry R. Kurth, '21; Chenery Salmon, '26; Gilbert M. Roddy, '31; William W. Garth, Jr., '36; D. Reid Weedon, Jr., '41; Theodore P. Heuchling, '46; Donald A. Hurter '46; and Robert S. Gooch, '51.



Fabian Bachrach

Dwight C. Arnold, '27, XV

President-Elect of the Alumni Association M.I.T.

Lincoln Laboratory Head

THE appointment of Marshall G. Holloway as director of the Lincoln Laboratory was announced in mid-April by James R. Killian, Jr., '26, President of the Institute. The Lincoln Laboratory, which is concerned with problems of continental defense, is managed by M.I.T. for the Army, Navy, and Air Force.

Dr. Holloway comes to M.I.T. from the Los Alamos Scientific Laboratory in Los Alamos, N.M., where he has served since 1943 and has been actively engaged in nuclear scientific problems, including the development of atomic weapons to which he personally contributed very substantially. He has recently served in Washington on a very important advisory committee for the Director of Defense Mobilization. Dr. Holloway assumed his new duties in May, succeeding Albert G. Hill, who asked to be relieved of the responsibilities of director of the Lincoln Laboratory to permit him to return to his position as a professor in the Department of Physics at the Institute.

Dr. Holloway, a native of Oklahoma, was graduated in 1933 from the University of Florida. He took his degree of master of science in 1935 and the degree of doctor of philosophy in physics in 1936 at Cornell University. He taught at the University of Florida and at Cornell, and served in the Purdue Research Foundation from which he was called in 1943 to go with the "Manhattan District" to Los Alamos.

Acting Heads

PROFESSOR EDWIN R. GILLILAND, '33, has been appointed acting head of the Department of Chemical Engineering to serve during the absence of Professor Walter G. Whitman, '17, who has been appointed secretary general of the United Nations World Conference on Peaceful Uses of the Atom.

Professor James Holt, '19, Executive Officer of the Department of Mechanical Engineering, will be acting head of his Department during the absence of Professor Jacob P. Den Hartog, who is giving a series of lectures at the University of Tokyo.



M.I.T. Photos

Erwin H. Schell, '12

Professor of Industrial Management



Ralph C. Young, '29

Associate Professor of Inorganic Chemistry



George A. Znamensky

Assistant Professor of Russian

Faculty Retirements

THREE long-term Faculty members will retire from the Institute this summer. They are: Erwin H. Schell, '12, Professor of Industrial Management and Head of the Course in Business and Engineering Administration; Ralph C. Young, '29, Associate Professor of Inorganic Chemistry in the Department of Chemistry; and George A. Znamensky, Assistant Professor of Russian in the Department of Modern Languages. All will retire with the title of Professor Emeritus and will continue to serve as lecturers in their special fields.

Professor Schell, who is widely known for his contributions to the study of business and industrial management, was born in Kalamazoo, Mich., in 1889, and in 1912 received the degree of bachelor of science in mechanical engineering at M.I.T. Five years later, after successive positions as operations engineer, industrial engineer, labor manager, and company treasurer, he was appointed a part-time assistant professor of business management at M.I.T.

Named associate professor in 1926 and full professor in 1929, Professor Schell also served from 1917-1928 as industrial engineer, executive assistant, and management counsel for the American International Shipbuilding Corporation, and as part-time assistant professor at the Harvard Graduate School of Business Administration. M.I.T. appointed him acting department head in 1930, and department head in 1931.

Professor Schell, who served as consultant on administration to the Department of State in 1944, is a member of the Corporation of Simmons College and a director of Keystone Custodian Funds, Inc., and in 1938 was awarded the Gilbreth Medal. He has been an active member and office holder in the American Management Association, National Management Council, Academy of Management, Executives' Club, and Theta Delta Chi Fraternity; and is a member

of the American Academy of Arts and Sciences.

Dr. Young, a member of the Institute's staff since 1922, was born in Phoenix, N.Y., in 1889. He was graduated from Syracuse University in 1912 with the degree of bachelor of arts, and received the degrees of master of arts at Syracuse in 1913 and doctor of philosophy at M.I.T. in 1929.

After serving as chemist with the U.S. Department of Agriculture from 1917-1918 and as instructor in chemistry at Syracuse University from 1919-1921, he was appointed instructor in chemistry at M.I.T. Dr. Young was research associate in inorganic chemistry from 1929 until 1934, when he was promoted to assistant professor of chemistry. Since 1940 he has served as associate professor of inorganic chemistry.

Dr. Young is a fellow of the American Academy of Arts and Sciences and a member of the American Chemical Society.

Professor Znamensky was appointed instructor at M.I.T. in 1942, and four years later was promoted to assistant professor of Russian. He was born in Novocherkassk, Russia, in 1890, and in 1916 received the degree of bachelor of divinity at the Imperial Theological Academy of Kiev.

Before coming to the United States, where in 1932 he was awarded the degree of master of education at Harvard University, Professor Znamensky was instructor of Russian language and literature and president of the Classical Junior College in Russia from 1916-1920, and Professor of Russian at the Russian Lyceum of Constantinople from 1920-1922. He was a lecturer on Russian at Harvard University in 1934, and from 1942-1951. During World War II, Professor Znamensky was associated with Harvard University and the Army Service Forces' Specialized Training Division as an objective testing examiner and instructor in the Russian language. He is author of *Elementary Scientific Russian Reader* and also of *Conversational Russian*.

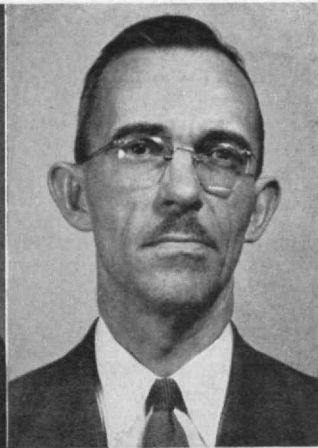
M.I.T. Photos



Alex Bavelas, '48



James W. Daily



Harold W. Fairbairn

SENIOR posts on the Faculty of the Institute have been announced for seven men who become professors, and for 16 who become associate professors. In addition, 12 have been named assistant professors and eight will become instructors at the Institute, following approval by the Executive Committee of the M.I.T. Corporation. All promotions become effective on July 1.

Members of the Faculty appointed to the rank of full professor are: James W. Daily, Department of Civil Engineering; Henry J. Zimmermann, '42, Department of Electrical Engineering; Harold W. Fairbairn, Department of Geology and Geophysics; Alex Bavelas, '48 (now on leave at the Center for Advanced Study in the Behavioral Sciences at Stanford University), School of Industrial Management; Joseph Kaye, '34, Department of Mechanical Engineering; Carl W. Wagner, Department of Metallurgy; and Herman Feshbach, '42, Department of Physics.

The following have been promoted to the rank of associate professor: Robert L. Halfman, 2-44, and Yao Tzu Li, '38 — both of the Department of Aeronautical Engineering; Richard Filipowski, Department of Architecture; Thomas H. Pigford, '48, Department of Chemical Engineering; Kevin A. Lynch, '47, Department of City Planning; J. Melvin Biggs, '41, Department of Civil Engineering; George P. Shultz, '49, Department of Economics; Richard B.

Adler, '43, Department of Electrical Engineering; Samuel A. Goldblith, '40, and John T. R. Nickerson, '32 — both of the Department of Food Technology; Myron J. Gordon, School of Industrial Management; Kenkichi Iwasawa, Department of Mathematics; Stanley Backer, '41, Frank A. McClintock, '42, and Maurice E. Shank, '49 — all of the Department of Mechanical Engineering; and Felix M. H. Villars, Department of Physics.

Members of the staff who will join the Faculty as assistant professors beginning next summer are: Thomas F. McNulty, '49, Department of Architecture; Carl W. Garland, Frederick D. Greene, 2d, Herbert O. House, Norman A. Nelson, and John S. Waugh — all of the Department of Chemistry; Warren G. Bennis, '53, Department of Economics and Social Science; John F. Twigg and Earle H. Watts — both of the Section of Graphics; William D. Stahlman, '48, Department of Humanities; Robert E. Ogilvie, '52, Department of Metallurgy; and John G. King, '50, Department of Physics.

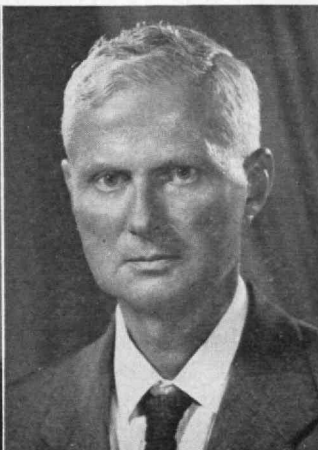
Members of the staff advanced to the rank of instructor include: Joel G. Flaks, Department of Biology; Moise H. Goldstein, Jr., '51, Philip M. Lewis, 2d, '54, Norman H. Meyers '54, Thomas H. Putnam, and Walter C. Schwab, '51 — all of the Department of Electrical Engineering; Stanley E. Charm, '52, Department of Food Technology; and Robert A. Hard, '49, Department of Metallurgy.



Herman Feshbach, '42



Joseph Kaye, '34



Carl W. Wagner



H. J. Zimmermann, '42

Course XV Honors Professor Schell and Miss Barnard

M.I.T. Photos



Miss Olive Barnard (above, in light dress) was honored at the Course XV luncheon on May 7. (Left) President Killian amuses his audience at the Course XV dinner. Others in the photograph are (from left to right): Professor Schell, Mrs. Killian, Dean Brooks, Mrs. Schell, Dr. Killian, Mrs. Eli Shapiro, and John S. Saloma, 3d, '56.

A CONFERENCE for Alumni of the Course in Business and Engineering Administration was held at the Sloan Building all day on Saturday, May 7. Under the title "New Directions in Education for Management" the threefold purpose of the conference was to: (1) report to Alumni on the emergence of Course XV into the School of Industrial Management; (2) present examples of current research being conducted in the School; and (3) pay tribute to Erwin H. Schell, '12, a beloved and stimulating teacher.

The morning conference session was devoted to a discussion of reports of research in progress, and in the afternoon Professors Douglass V. Brown and Douglas M. McGregor conducted a lively dialogue entitled "Organization Theory: Help or Hindrance?"

At luncheon in the Faculty Club, which was attended by 180 people, Dean E. P. Brooks, '17, spoke on the progress being made by the School of Industrial Management. Tribute was also paid to Miss Olive Barnard, technical assistant, whose ability to recall the names of Course XV students and Alumni is unfailing. As a token of the esteem in which she is held, Roger R. Smith, '26, presented a rocking chair to Miss Barnard.

Dean Brooks presided at the dinner, which was also held in the Faculty Club, at which 236 friends were present. James R. Killian, Jr., '26, President of the Institute, commented on the personal relations he had enjoyed with Professor Schell, as a student and as an Institute official. Duncan R. Linsley, '22, paid tribute to Professor Schell in outlining Professor Schell's relations with Technology Alumni. Finally, Professor Schell delivered one of his famous lectures—entitled "The Second Million."

John R. Macomber: 1875-1955

JOHN R. MACOMBER, '97, a life member of the M.I.T. Corporation, a member of its Executive Committee, and chairman of the Finance Committee, died at his Framingham home on May 11. Mr. Macomber was born in Framingham in 1875, attended the Chauncy Hall School, and M.I.T.

He began his business career in 1894 as a messenger for the firm of N. W. Harris and Company, and 17 years later became vice-president. In the following years, as the firm was consolidated with other corporations, he served as president of Harris Forbes and Company, Inc., from 1916-1931; as chairman of the Board of Chase Harris Forbes Corporation from 1930-1933; and as chairman of the Board of the First Boston Corporation from 1934 until his retirement in 1947. He was also a member of the Board of Trustees of the Massachusetts General Hospital. Mr. Macomber was elected a term member of the M.I.T. Corporation in 1926, and a life member in 1931.

Mr. Macomber was a director of several financial and manufacturing firms. A founder of the Metropolitan Opera Association, past president of the Boston Chamber of Commerce, and former chairman of the Y.M.C.A., Mr. Macomber was also active as director and trustee of the Massachusetts Society for the Prevention of Cruelty to Animals, and American Humane Education Society; and as trustee of Tufts College, New England Conservatory of Music, Massachusetts Society of the Prevention of Cruelty to Children, and the National Foundation for Infantile Paralysis.



M.I.T. Photos

Willy

A SLEEK, beautiful new shell was made available to M.I.T. oarsmen at dedication ceremonies at the Tech Boat House on the afternoon of Tuesday, May 3. The new shell is the gift of Arthur A. Nichols, '28, and William H. Nichols, '27 (pictured with M.I.T. oarsmen above). The shell is named after their father, W. H. Nichols, who was especially interested in amateur sports, and in 1893 won the world's quarter-mile bicycle sprint record. The new shell was christened *Willy* by James R. Killian, Jr., '26, President of the Institute.

After placing the new shell on exhibition, President Killian made a brief acceptance address on be-

half of the Institute, and christened the new shell *Willy* by breaking a bottle of Charles River water over the nose of the shell—suitably protected against damage by a crowbar. The shell was then slid into the Charles River.

Last year, the Technology crew chalked up remarkable success in winning the Thames Cup, as reported in the July, 1954, issue of *The Review*.

The Intercollegiate Rowing Association will hold its annual Stewards' Dinner on Friday evening, June 17, at the Hotel Syracuse, Syracuse, N.Y., and there will be races on Saturday afternoon. Coaches of the crews, the officials, and the stewards will be in attendance at this event, which will be open to the public for the first time this year.

Jenaro Olivares G.

Even the imperturbable Beaver Piñata, judging from his expression and the jaunty cap, has caught the happy enthusiasm of the seven guests who attended the "Noche Mexicana" on March 12 at the home of Fernando de la Macorra, '23. The "Noche Mexicana" was the final event of the seventh annual fiesta of the M.I.T. Club of México. Left to right are: Walter J. Beadle, '17, life member of the M.I.T. Corporation; Mrs. Beadle; H. E. Lobdell, '17, Executive Vice-president of the Alumni Association; Mrs. Lobdell; the Beaver Piñata; Mrs. Brooks, E. P. Brooks, '17, Dean of the M.I.T. School of Industrial Management; and Pedro Albin, '47, President of the M.I.T. Club

of México.



Walter M. Fife: 1890-1955

WALTER M. FIFE, '21, Associate Professor of Structural Engineering, who for 33 years served on the Faculty of the Department of Civil and Sanitary Engineering at M.I.T., died on Friday evening, April 22, 1955. He was 64 years old. Professor Fife was born in Peterboro, Ontario, Canada, and attended the Peterboro Collegiate Institute and the University of Alberta, where in 1913 he received the degree of bachelor of science. M.I.T. awarded him the degree of master of science in 1922.

Prior to his teaching career, Professor Fife was employed as an instrumentman for the Dominion Land Surveys and as detailer for the Dominion Bridge Company in Winnipeg, Canada. From 1913-1922, apart from three years' service as lieutenant in the Canadian Expeditionary Force, he was an instructor and then assistant professor at the University of Alberta. After completing his graduate studies at M.I.T., Professor Fife joined the Faculty as assistant professor of civil engineering. He was promoted to associate professor in 1928, and associate professor of structural engineering in 1941.

Professor Fife served as exchange professor at Stevens Institute of Technology during 1934-1935, and in 1935 became a naturalized United States citizen. During World War II he worked half time on special war research.

He was an associate in the Engineering Institute of Canada and the American Society of Civil Engineers, and a member of the Boston Society of Civil Engineers and the American Concrete Institute.

Weather and M.I.T. History

THE 310th meeting of the Alumni Council, held at the Faculty Club on April 25, was opened by Hugh S. Ferguson, '23, President of the Alumni Association. After a business session, the Council listened to Professor Hurd C. Willett, of the Department of Meteorology, speak on long-range weather forecasting, and Horace S. Ford, Treasurer Emeritus, speak on progress during the four decades M.I.T. has been in Cambridge.

Under items of business, Donald P. Severance, '38, Secretary, reported that four members of the staff visited eight local clubs since the previous Council meeting on March 28.

Dwight C. Arnold, '27, chairman of the Committee to conduct the First Alumni Officers' Conference, reported that members of the Alumni Council, Class Officers, Club Officers, Honorary Secretaries, and Educational Counselors would be invited to a conference at M.I.T. beginning on Friday, September 9, and continuing through a luncheon on Saturday, September 10. The purpose of the conference will be to bring this group up to date on current developments at M.I.T., to discuss problems they may have regarding student admissions, and to give them an opportunity to become better acquainted with the modern Institute and its students.

Theodore T. Miller, '22, chairman of the Alumni Fund Board, reported that as of the date of reporting, 9,700 Alumni had contributed \$354,000 to this year's Alumni Fund.

Samuel C. Prescott, '94, chairman of the Committee on Honorary Members, reported that John J. Rowlands, Director of the M.I.T. News Service since 1925 and an Editorial Associate of *The Review* for almost an equal length of time, had been nominated as an honorary member of the Alumni Association. This report was accepted by a rising vote and hearty applause.

As chairman of the 1955 Alumni Day Committee, Avery H. Stanton, '25, disclosed final plans for Alumni Day.

Robert S. Williams, '02, Professor Emeritus, presented a resolution on the death of Frederick H. Hunter, '02, which was accepted by a silent rising vote. Mr. Hunter had been an active member of the Council for many years.

In the informal portion of the meeting, Professor Willett opened his discussion of long-range weather forecasting by describing briefly the basis for forecasting of day-to-day weather sequences one to four days in advance. Next came a description of extended forecasting.

Professor Willett told how current long-range weather forecasting now depends on following three types of climatic patterns which are basically different in character. Two of these are zonal patterns spinning with the axis of the earth; the third is a pattern of climatic stress, having strong cellular structure with north-south movement.

He discussed the partial failure of forecasts of last winter's weather. He forecast that this would be a particularly hot, dry summer farther south in this country but that the northern part of the United States this summer would have fairly normal weather and temperatures.

The final speaker was Mr. Ford, senior honorary member of the Alumni Association, whose topic was "Forty Years on the Cambridge Side." His first remarks were directed toward the following outstanding "firsts" and their timing:

Establishment of the Alumni Association	1875
Organization of Class Secretaries	1896
Establishment of <i>The Technology Review</i>	1899
The beginning of M.I.T. Clubs, 8 prior to	1900
Addition of 15 Alumni Members on the Corporation	1903
Establishment of the Alumni Council	1909
Beginning of Honorary Secretaries Organization	1931
The start of the Alumni Fund Board	1940
The beginning of the Educational Council	1952

Next he reviewed the improved and expanded dormitory facilities and the tremendous strides that have taken place in building medical, athletic, and recreational facilities.

Following a short résumé of the buildings added to the original Cambridge campus, Mr. Ford closed with two thoughts: First, M.I.T.'s progress has come in surging waves. He illustrated this by reference to the principal advances in the times of Institute Presidents Walker, Maclaurin, Compton, and now Killian; Second, there has been a matter of very fortunate timing. The Institute had just moved to its Cambridge site in time for World War I and its immediate postwar period. Through Dr. Compton's leadership the Institute was scientifically ready when World War II enveloped this country.

BUSINESS IN MOTION

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This brass is widely and successfully used in gears for clocks, meters, and similar instruments. However, experience proved that a fishing reel, which is operated at various speeds and loads, presents a quite different service. Revere was asked to suggest a metal that would be more suitable in this application.

The Technical Advisory Service at once reported that either naval brass or aluminum silicon bronze would last longer. However, in order to determine the relative merits of the two, the Revere Research Department was asked to make tests. Gears of both metals were installed in reels, and a motor-driven machine was rigged to provide an accelerated wear

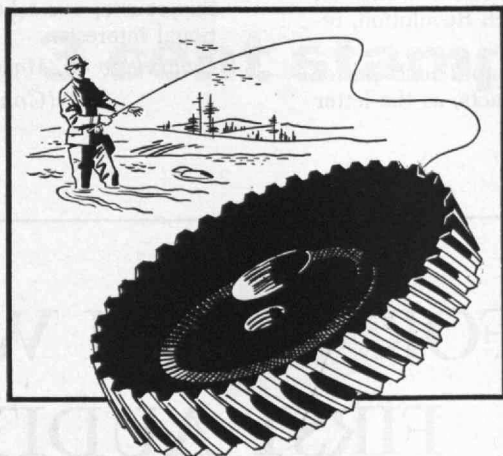
test. Each gear was run at 430 r.p.m. and at 100 r.p.m., at zero tension on the line, and at 1, 2, 3, and 4 pounds tension. After each run the gears were removed, cleaned, examined, measured and photographed. The reels were then reassembled, lubricated, and the next run started.

The results were impressive. After the gears had gone through 186,727 revolutions it was felt unnecessary to proceed further. Both

reels were still fully usable. The naval brass was somewhat more worn than the aluminum silicon bronze, however, it certainly was evident that naval brass would be satisfactory. The reel maker was determined to offer the best he knew how to make, and selected the more expensive aluminum silicon bronze. He knows conclusively now that his reels will give long

service, enduring satisfaction, and will protect his reputation and help his business grow.

If you have questions as to the best material or materials for your product, no matter what it is, and do not have a modern research laboratory, why not ask your suppliers for help? Some may have an immediate answer; some may wish to test alternatives. You will benefit either way, and make faster and surer progress in your search for improvement.



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MAIL RETURNS

(Continued from page 350)

FROM MIGUEL C. JUNGER, 2-44:

The lambasting and persiflage Mr. Tichenor accorded Dr. Pusey and Dr. Hutchins, for advocating that college students be exposed to broad general culture whether or not they intend to devote themselves to the sciences, is unexpected and rather entertaining. After all, there are more Nobel prize-winning scientists on the faculty of Harvard than on that of any of our technological schools, and the role played by the University of Chicago during World War II in developing the atom bomb is unparalleled; the Pusey-Hutchins approach therefore does not seem to have too nefarious an effect on science. It is also notable that many of the greatest scientists and engineers have had predominantly classical educations; a scientist such as Professor Schroedinger has written an authoritative work on ancient Greek thought and Dr. Oppenheimer is a Sanskrit scholar.

Mr. Tichenor's statement that "History . . . is a satisfying pursuit for timid men . . ." strikes an amusing note if one considers that some of the most courageous statesmen of our times, such as Churchill, Duff Cooper, and Herriot have contributed classical historical works on Marlborough, Talleyrand, and the French Revolution, respectively.

The quotation of the Einstein letter to *The Reporter* amounts to an actual distortion of the facts, as the letter

was meant as a protest against the ". . . badgering to which scientists today are subject . . ." by witch-hunting politicians, and not, as implied by Mr. Tichenor, at the hands of humanists and educators.

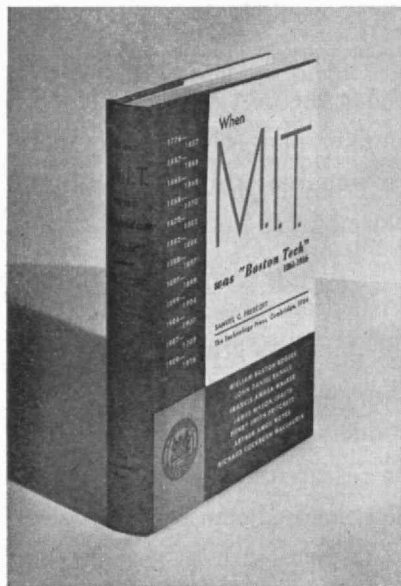
Mr. Tichenor's thesis amounts to removing scientists and engineers from the professional, literate classes of society and turning them into glorified mechanics produced in staggering numbers; such a procedure would inevitably lead (as it is beginning to in the Soviet Union) to a technocracy à la Orwell. This is indeed a poor defense against the Russian threat which weighs upon us. Attila knocking at the gate is an unpleasant reality, but it should not make us forget the lesson of the old proverb drawn from the wide experience of the Romans in such matters, that the barbarians within the city walls are no less dangerous than those without.

There may be an argument for publishing a controversial article; however, it would certainly have been more tactful if you had used a more conditional phrase in your own introductory editorial reference than ". . . the plea that there should be more engineers of youthful years preparing for the next World War."

In recent years, the Institute has steadily expanded its facilities for the teaching of the humanities. It is thus pursuing a policy in agreement with the Pusey-Hutchins philosophy: It strives to turn out engineers and scientists of broad general culture, fully conscious of the meaning and traditions of our Western civilization. In maintaining this course, our school is, once again, furthering our national interests.

Cambridge 39, Mass.

(Continued on page 416)



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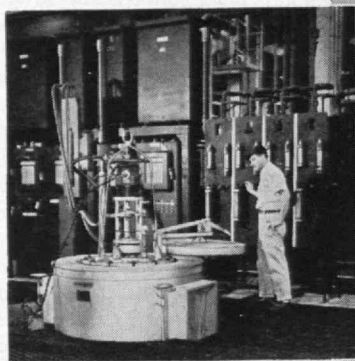
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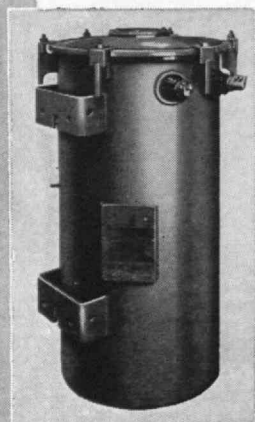
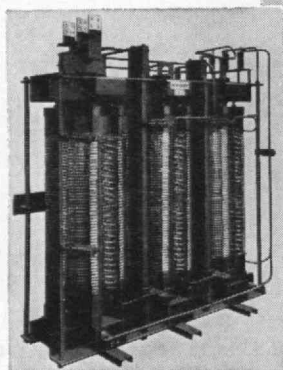
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MAIL RETURNS (Continued from page 414)

FROM EUGENE B. SKOLNIKOFF, '49:

I have read this article with considerable interest, but corresponding dismay. As regards statements of fact, Mr. Tichenor is highly misleading, though not actually incorrect, in stating that the number of engineering graduates has fallen from a high of 50,000 in 1950 to 20,000 last June. What he ignores is the fact that starting in 1955 this number will once again be rising and will continue to rise at an unprecedented and disturbing (in view of the classroom and teaching staff available) rate. Mr. Tichenor forgets that the drop from 1950 to 1954 was primarily due to the end of the extra veteran registration and to the forecasts in 1949 and 1950 that engineers were going to be in great oversupply. This tragically incorrect forecast (in the light of subsequent events) caused many students to shun engineering.

But this is a trivial comment in the light of Mr. Tichenor's astounding statements regarding the value of humanities in an engineering curriculum (or the value of humanities generally). Does Mr. Tichenor really ask us to produce a class of technicians (formerly called engineers) who know nothing further than their formulas and are interested in nothing further? I suspect such a class could turn out some very interesting gadgets and even a bombsight or a bridge or two. But, if we want to talk in terms of national survival as Mr. Tichenor does, I maintain we would be in serious difficulties without a body of engineers and scientists capable of thinking in bold and imaginative terms and capable of understanding how their developments fit into our society and our economy.

If I may take the same quotation used by Mr. Tichenor: Dean S. C. Hollister of Cornell said, "Many persons fail to realize the impact that science, engineering and technology have had in our national life and world affairs." I'm afraid that I draw quite an opposite interpretation from that quotation; surely with this situation, it is imperative that we educate our engineers and scientists so that they *will* understand the impact of technology on our society and can be of significant help in planning for and coping with the rapid changes.

To take a different tack. Even if there were no argument that it is essential for our own survival in a technological sense to give engineers and scientists a broad background, there would remain the argument that we must, as a national policy, educate our youth to be, simply, educated adults. Mr. Tichenor says, "There is no demonstrable proof that they (the humanities) ever made men more democratic." This is not why we believe in

(Continued on page 418)



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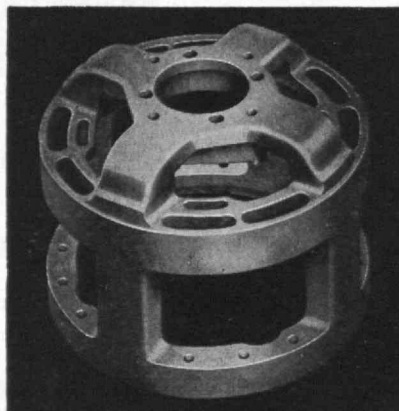
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MAIL RETURNS
(Continued from page 416)

education. Surely we are trying to have a nation of individuals who, to the best of their ability, understand their society including both its shortcomings and advantages and understand and are anxious to partake in some of the activities that distinguish a creative and dynamic society. This does not mean that engineering and science are not cultural and creative activities. What it does mean is that they are only part of our society and our heritage. A liberal arts major must know and understand the implications of science; so, too, must a scientist know and understand the environment within which he is working. To consciously eliminate the humanities from technological education is to consciously set out to produce automations.

I'm afraid that I cannot agree with Mr. Tichenor on the superfluity of the study of humanities either with regard to our military situation or with regard to our general education needs. However, one point is made that does bear repeating and, in fact, demands more emphasis. That is, that our secondary schools should assume more of the burden of education.

Mr. Tichenor's article was most stimulating, and though I find it impossible to agree with any of its major arguments, I compliment the Editor on his including such a controversial subject. I can't help but feel that Mr. Tichenor misses the whole point of a "liberal" education, but I do believe it worthwhile to express a point of view that isn't often heard around institutions like M.I.T. at this time.

Cambridge 39, Mass.

FROM JULIAN J. BUSSGANG, '51:

The author's sarcastic remarks about Harvard and his biting attack on Dr. Hutchins are well below the usual standards of The Review.

The Editor claims the author's contention to be "that an education in science and engineering can be just as cultural as one in liberal arts. . . ." This must refer to some other article for Mr. Tichenor is nowhere concerned about what an education in science and engineering can be. Apart from some disconnected remarks about the "rejuvenation of our educational system," Mr. Tichenor devotes his energy to telling us that we do not need humanists, because the Soviet Union is turning out more engineers than we do.

Let us examine very briefly the construction of this article. The major part of the article consists of a listing of

(Continued on page 420)

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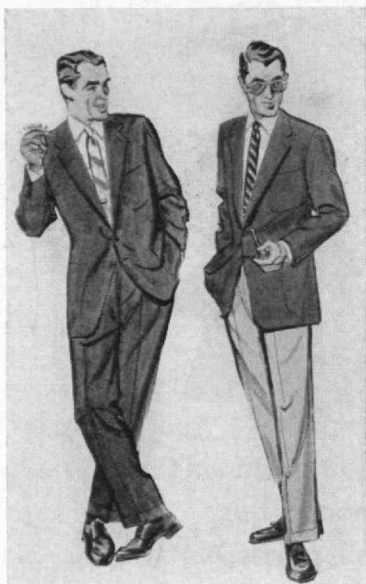
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MAIL RETURNS

(Continued from page 418)

Mr. Tichenor's five reasons for recent decline in the ratio of graduates with engineering degrees to those with arts degrees. These reasons are (in his own order): (1) the present fad among educators; (2) scientist's aversion toward products his knowledge makes possible; (3) average man's escapism into timelessness of the humanists; (4) propaganda of the liberal arts crusaders; (5) Dr. Hutchins. Following a discussion of these five *reasons* the article disintegrates into shallow thrusts in sundry directions. Without debating the documentation under these headings, much of which appears impertinent, one need only examine the five points above to estimate how Mr. Tichenor approaches his subject.

In concluding, I wish to emphasize that there are many scientists and engineers who agree with Dr. Hutchins that the Great Conversation should be continued; the interruption was unworthy of *The Review*.

Cambridge 39, Mass.

FROM ROY G. SALTMAN (Graduate Student, Elec. Eng.):

The controversy which this article has aroused indicates that people are thinking about the great dichotomy of thought that confronts us concerning "freedom" versus "security."

To summarize my opinions, I would like to recall the statement of a famous religious man (whose name I cannot remember) who was asked what he would do if told that he would die the next day. The man replied that he would live the last day just like any other day. The comparison I draw from this is the following: that every day the U.S.A. faces danger, and no day is different from any other day. If the basic liberties granted us were enough to protect us from enemies for 180 years, they are good enough to protect us today, without the addition of restrictive laws. Of course technology has advanced since 1776, but no law ever protected anyone against technology, but rather against human nature. To keep our freedom, we must study not only technology, but human nature—through philosophy, history, sociology, economics, music, art, and everything else.

It is interesting to note that I and other "liberals" represent a truly conservative viewpoint in championing the above opinion. It is the ultra-security-conscious people who are the real radicals in this dispute.

Cambridge 39, Mass.

(Continued on page 422)

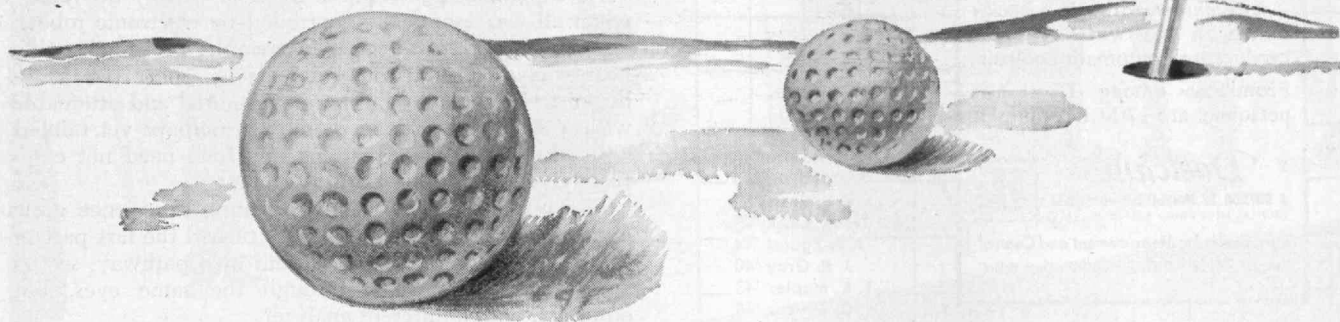
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MAIL RETURNS

(Continued from page 420)

FROM DR. OWEN S. GIBBS:

I would like to meet George Tichenor, for like myself he has passed an interesting life industriously picking up all kinds of treasures. Probably his first collection was glittering and lustrous, suggesting the fantastic possibilities of a Utopian Arabian Nights—some of which are, myogenically at least, especially attractive.

As experience grew, these ideas of earthly heavens—when all was aseptically controlled by electronic robots, and on the streets abounded nymphs of unbelievable beauty clad in wondrous raiments of “sheer” ecstasy—began to be replaced by more substantial and attainable wishes of relatively good plumbing: perhaps yet tainted with idealistic visions that packing food need not completely destroy its own natural flavor.

Slowly, and probably imperceptibly, experience grew and matured until finally we both turned the last part of the spiral and looked down on our own pathway; seeing again the same sights, through the same eyes, but equipped with a different analyzer.

Everything was there just as before; everything was interesting and valuable; but the relative importance had changed, and I in my own profession had learned anew, exactly as George has in his, that it is wise to try and keep the patient alive until you have time to cure him.

Philadelphia, Pa.

Author Answers

FROM GEORGE TICHENOR:

The Technology Review and its editor, B. Dudley, are to be congratulated on their public-spirited willingness to provide a forum for a subject which was certain to be as controversial as it is important.

I must accept reproof for the vehemence of my language, which one writer found vindictive and another “needlessly insulting.” In extenuation, I would suggest that it is difficult to be moderate in the face of so much complacency about Russia outstripping us in technological man power at an accelerated rate. The too-frequent attitude seems to be: “So Attila is knocking at the door? . . . Hmm, well, be that as it may. . . .” Or as Mr. Smith says: “Why the author . . . should wring his hands in woe over the fate of his precious skin at the hands of the Russian engineers is something I cannot fathom.”

There is a thin suggestion running through several letters that counterpreparedness is equivalent to war-mongering and that the cultivation of spiritual values is enough. I don't wish to sidetrack into fields of theology, but I find the example of the Puritans very appealing: they went to church with their guns and kept their powder dry. I seem to be more interested in precautionary measures to preserve our cultural heritage (and “precious skin”) than critics who accuse me of lack of interest in same.

I do not share the pessimism of some educators that engineers unsweetened by the liberal arts will develop into a species of tree-swinging creatures with a banana in one hand and a bombsight in the other. And I wish there was not this insistent dichotomy that we are Cultured or “a class of technicians . . . technologists, totally ignorant of anything else. . . .” I do not believe that de-emphasis on the humanities in technical schools will remove “scientists and engineers from the professional, lit-

(Concluded on page 424)



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MAIL RETURNS

(Concluded from page 422)

erate classes of society" and turn them "into glorified mechanics produced in staggering numbers. . . ."

The point of my argument was that technical schools are taking up the slack of liberal arts subjects neglected by secondary schools, as Mr. Skolnikoff confirms. I also resent on behalf of the younger generation the forceful intrusion of the humanities into a crowded curriculum, at the expense of equally creative and cultural technical subjects forced out! I am in favor of such training as would make engineers and scientists broadly educated, in economics, law, history, and the liberal arts. But I think that this should be in addition to their training in engineering and science, not as a substitute for it. Let it be as post-graduate work or lifetime leisure study. I hold no brief for the narrow, one-sided technician. But if he is a good technician, it seems to me he fills a more useful place in society than the nincompoop who has managed to amass such a smattering of ignorance in the humanities as to develop into an all-around dabbler in superficiality. (There I go, getting vehement again.)

The letter of Mr. Bussgang, like some of the others, deplores my approach without grappling with the issues. Does it recognize the Soviet challenge in technological man power and suggest a means for meeting it? No. Does it question my belief that humanities thrust into a curriculum, thrust valuable engineering subjects out? No. It worries about my analysis of reasons for a situation. Since the article was written, a bill (H.R. 2179) has been introduced into Congress "to increase the supply of scientific and technical manpower . . ." and educators have met on the same problem, but present critics are more concerned with my lapses with Emily Post. Mr. Bussgang deplores my "biting attack on Dr. Hutchins." But note that no one in this symposium deplores by so much as a peep Dr. Hutchins' bites at technical training!

I don't know what it will take to make engineers lift up their heads with pride in their art. I remember some years ago attending a demonstration of sand painting by a Navajo Indian who squatted on the floor of the Museum of Modern Art. The crowd, mostly ladies, oh'd and ah'd at the stick figures he was creating. This was the real stuff for those in the know. At our backs was a view through the window of the knife-like blade of a building in Radio City. That, to me, is beauty and culture, along with Salk vaccine and all the other life-comforting devices, which, as Dr. Gibbs suggests, will help us "keep the patient alive until you have time to cure him." But I am afraid that technology will continue to be despised until the archaeologists dig us up and pay tribute to a mighty people. The liberal arts crowd has the Indian sign on you.

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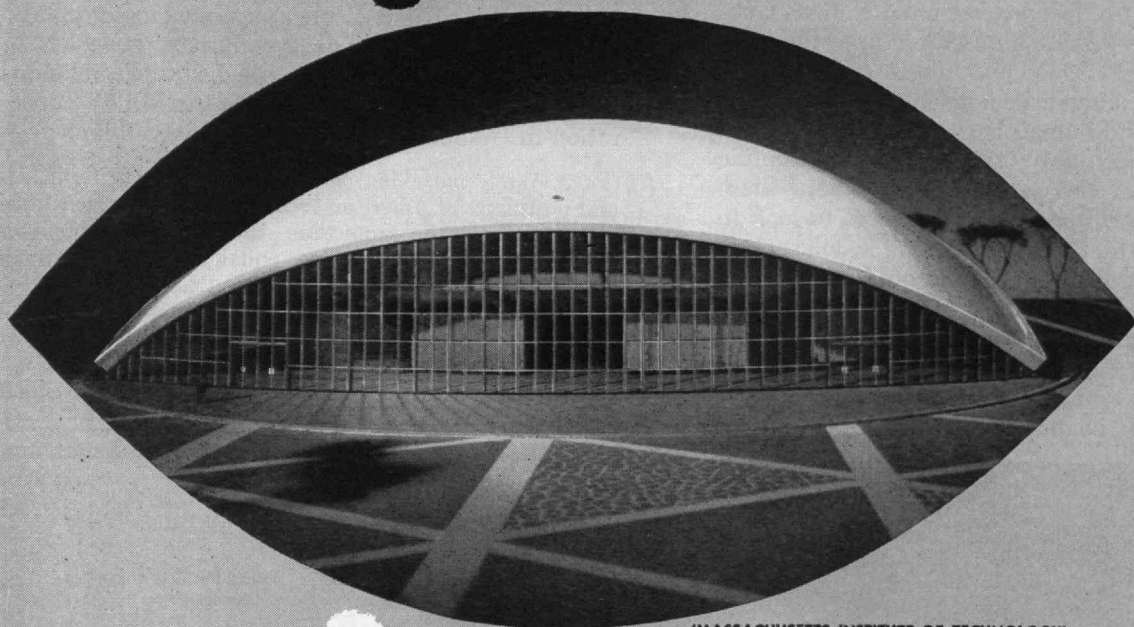
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TREND OF AFFAIRS

(Continued from page 390)

The element of joyous anticipation, to which Dean Burchard alluded in announcing the Fortnight Festival was evident as the M.I.T. Symphony Orchestra, Glee Club, and Choral Society performed the "Canticle of Freedom" by Aaron Copland. Mr. Copland's composition is modern, festive, and joyful, and was admirably composed for the occasion. The fact that it was commissioned by an educational institution long noted for progress in science and engineering gives evidence that those pursuing the technical professions need not be — and in fact are not — blind to the emotional and intellectual appeal of the arts.

Principal speaker of the dedication was E. N. van Kleffens, President of last year's United Nations General Assembly. Dr. van Kleffens emphasized the need for faith and belief beyond that which science alone can provide. He admonished his listeners to ascertain the "divine and human laws which set a boundary to what man may do with his scientific discoveries." From the sacred places where these rules come to the surface, he urged them to look to religion, to law, to philosophy. This scholarly address, admirably suited to the occasion, is reproduced in full on page 403 of this issue of The Review.

In delivering the affirmation address, as a representative of the M.I.T. Corporation, Theodore P. Ferris, Rector of Trinity Church, spoke primarily of the role the new chapel will play in serving the

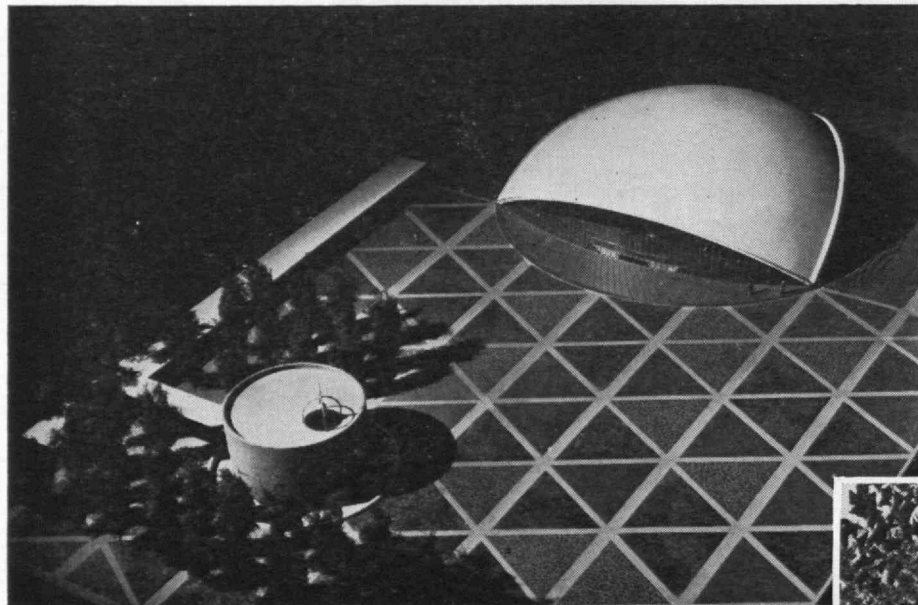
needs of Technology students of all religions. "The great revival will come," said Dr. Ferris, "not when something old is rediscovered, but when something new is discovered for the first time. What more likely place for this to happen than in the small chapel on the campus of M.I.T.?" The complete text of Dr. Ferris' address appears on page 406 of this issue of The Review.

Acceptance of Auditorium and Chapel

In accepting the Kresge Auditorium and Chapel on behalf of the Institute, President Killian paid tribute to the members of the Kresge Foundation — Stanley S. Kresge, Howard C. Baldwin, and Amos F. Gregory, in addition to Sebastian S. Kresge — who played the major role in making available the unconventional buildings. President Killian's able address is reported in full on page 401 of this issue of The Review, so that further comment need not be included here. It may be appropriate, however, to recall Dr. Killian's views of the Institute's religious program as given in his report to the M.I.T. Corporation in October, 1954. Said President Killian:

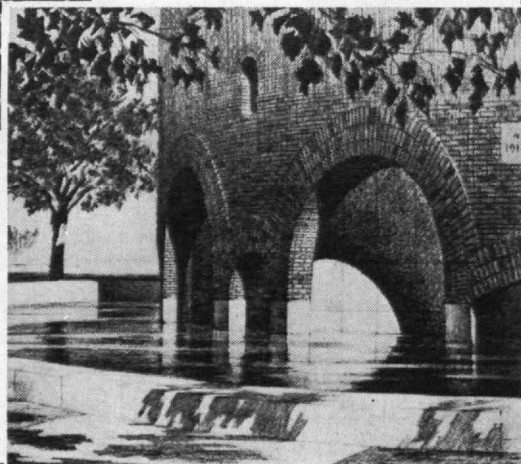
... While partaking of the Judeo-Christian traditions and postulates of American society, a private secular institution must at the same time embrace our tradition of religious tolerance by being equally hospitable to all genuine religions, creeds and personal convictions. Its institutional policy must be one of equal opportunity for all beliefs and outlooks, which means not only that it must express no bias toward any creed but also that it must not exhibit any bias toward religion itself. A private secular

(Concluded on page 428)



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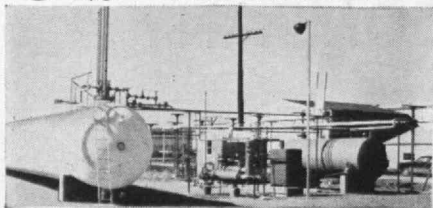
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TREND OF AFFAIRS

(Concluded from page 426)

institution should be hospitable to religion and to the pursuit of spiritual matters by men of all creeds and differing outlooks, but it should not permit itself to be used to advocate or deny any theological doctrine or any philosophical position toward religion. Our responsibility is to provide opportunity, in a manner wholly elective, for the development of spiritual maturity and the exercise of spiritual interests.

The small devotional chapel which we are building at M.I.T. has been conceived and will be used in accord with these principles. It will be in the completest sense nonsectarian, equally available to individuals and groups of all faiths. Its purpose is two-fold:

First, to stand as a symbol of the place of the spirit in the life of the mind and as a physical statement of the fact that M.I.T. has a right and a responsibility to deal with ideals as well as ideas and to be concerned with the search for virtue while we become proficient in the search for things.

Second, to provide ready opportunity for students and other members of our community to worship as they choose, to have on campus a building, beautiful and evocative of reverence and meditation, where those who wish may enter and worship in their fashion.

This two-fold purpose of course includes the provision of opportunities for the separate faiths and groups to use the chapel each in their own way so long as this does not require special privilege. . . .

The chapel is in this sense but a part of a broader spiritual program long evolving at the Institute. The future direction and method of this program must rest upon community acceptance and desire, and coordinate with our developing program in the humanities and social studies. It should grow naturally out of the spiritual values which are inherent in our institution. We should remember that M.I.T. was founded by unselfish men for altruistic purposes and that it has always been an implicit expression of high moral purposes and standards. "The flame of Christian ethics," to use Sir Winston Churchill's phrase, has lighted the institution throughout its history and given it direction and spirit. As a consequence we have a community held together by a humane and tolerant spirit of mediation, reconciliation and reverence for the individual, a community governed by a passion for truth, freedom of inquiry and a preoccupation with ideal aims. We have a community generous in its opportunities to live and let live; a community where men of many faiths and backgrounds are free to interact on each other; a community committed to the ideals of professional service, of ministering to the public, of advancing learning and creating beauty.

These are the spiritual bonds that hold together our society of scholars. Our developing spiritual program, to be valid, must embrace them, exalt them and be consonant with the environment they have created.

President Killian's words express a faith and a conviction. The Kresge Auditorium and Chapel provide new means and instrumentalities by which this faith and conviction may be expressed and brought to full fruition. No one who attended the dedication ceremonies on May 8 could fail to have observed that the ceremonies themselves gave the first full, wholehearted expression to that broader education in which science and religion, combined, contribute to the education of the whole man.

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STRUCTURES

(Continued from page 400)

light on its wood and metal pipes make a rich complement to the intricate metal screen behind the large marble pedestal.

On the lower floor of the chapel is the robing room, storage rooms, wash rooms, and maintenance and service rooms. A small elevator is provided to move religious articles from the robing room to the marble pedestal.

Design and Construction

Architects and engineers alike agree that the design and construction of the Kresge Auditorium and Chapel have required courage and daring on the part of the donors, the architects, and all those connected with the planning and construction. The two new structures are radically different in form and purpose from the main educational buildings of the Institute designed four decades ago by Welles Bosworth, '89.

In contrast to the usual rectangular shapes of most buildings, the auditorium and chapel are built almost entirely in curved forms. Although the curved designs which have been adopted are well suited to the purpose for which the buildings have been dedicated, they have injected a number of unusual — and sometimes very difficult — problems of construction. Curved structures minimize straight lines and right angles for which most building materials are manu-

factured, and in many cases require forms and materials which are not stocked as standard items. The reinforced concrete spherical dome represents the most obvious need for unconventional construction, but it is by no means the only example calling for special techniques. In a number of instances special fittings and equipment, or special construction techniques were employed. Not all of the unusual features were the result of curved members, however; frequently standard items readily available from stock proved to be inadequate for the purpose or were found to be out of harmony with the artistic motif being sought. Like the auditorium, the chapel, too, requires more than ordinary attention, with each brick different from every other one, and carefully fitted into place by hand.

Participants

Architects for the Kresge Auditorium and Chapel were Eero Saarinen and Associates; associate architects were Anderson and Beckwith. Ammann and Whitney were the structural engineers, Hyde and Bobbio were mechanical engineers, and George A. Fuller Company was the general contractor. Bolt, Beranek, and Newman, Inc., were acoustical consultants, and Stanley McCandless was consultant for the theater and lighting. Walter Holtkamp constructed the organ, and the gilt chapel screen was designed by Harry Bertoia. The spire and bell, to be

(Concluded on page 432)



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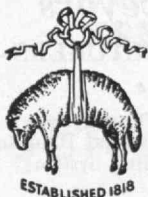
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STRUCTURES

(Concluded from page 430)

placed above the chapel, were both designed by Theodore J. Roszak.

Finally, no record in The Review would be complete without mentioning the donors—the Kresge Foundation, established by Sebastian S. Kresge. Without the support of this Foundation, the work of all others would have been of no avail; with it, splendid new facilities for the Institute's students and Faculty have come into being, and perhaps a new era of college campus construction may have been inaugurated.

THE AFFIRMATION

(Concluded from page 406)

conceived notion of how the chapel shall be used and have no intention of superimposing upon it any ecclesiastical pattern or plan. To my mind at least, it is better so. Let the use of the chapel be partly determined by the course of events, and partly by its ability to meet and answer real needs of real people. It must be free to respond to the unpredictable movements of the Spirit.

Obviously we cannot ignore the facts which now prevail in the religious world, the fact that Protes-

tants and Roman Catholics do not worship together, the fact that the Jews have their own ritual and liturgy, the fact that there are other great religions represented here at the Institute which are still further removed in faith and practice. In the use of the chapel, allowance will have to be made for these facts, and provision has been made for all religious groups to use the chapel for their services.

I, for one, hope and pray that we can go far beyond these facts of division. It would be a great disappointment to many of us if the chapel served merely to recapture and reproduce the past. There is a revival of religion taking place right now in our country. For the most part, it consists in the rediscovery of old truths forgotten or neglected, the theology of the Bible, the doctrine and authority of the Church, the healing ministry of Christ. This is all to the good. But the great revival will come, not when something old is rediscovered, but when something new is discovered for the first time. What more likely place for this to happen than in the small chapel on the campus of M.I.T.?

In this place where men are thinking about the universe in contemporary, not mythological terms, where they are constantly in the presence of mystery that exceeds anything that the ordinary man can even guess, and where they hold in their hands the secret to power that can either destroy or redeem us, it is altogether likely that some advance will be made in religion, that new insights into the nature of man and God will be revealed, and that to the religious disciplines of the past will be added the discipline of the atom, sun, and stars.

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DEDICATORY ADDRESS

(Concluded from page 405)

ried on in the Institute, religious, educational or simply recreational, will be given facilities here if it can thus find better opportunities for deployment, and so long as the structure is not endangered thereby. Here, indeed, is your meetinghouse. Its architecture and the ideas it stands for should, together with the traditions to be built around it, be an effective stimulus for raising the level of anything going on here to the highest possible standards.

The simple beauty, the simplicity, and the dignity of the new buildings make this a joyful and memorable day in the annals of the Institute. They bring home to us the fact that an establishment for technological studies, intelligently directed in the spirit, let us say, of Karl Compton, can provide an environment for deepening our sense of spiritual values. These ornaments of your campus stand for Truth, for Beauty, for Loyalty toward our fellow men and Unselfishness in the pursuit of learning. The most grateful thanks are due to all those—donors, architects, engineers, consultants, and, last not least, builders of all grades—who, together with the committee on the program of today, have brought us here. They have, all of them, helped to give us these new opportunities for the pursuit of virtue and understanding. May these buildings then bear testimony through many centuries that here worked a generation, one out of many, which, bent on creative work and engaged for its own betterment on enlarging the area of man's domination over the forces of nature, was forever mindful of the divine ordinances whose observance can alone turn technology into the blessing its proper application will bring the human race.

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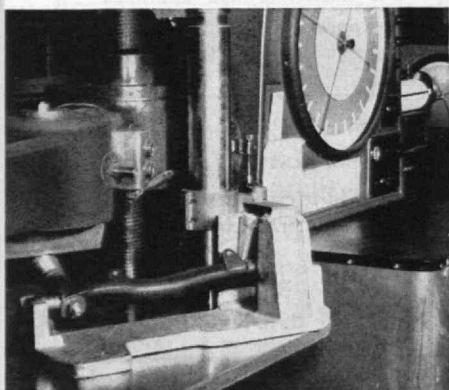
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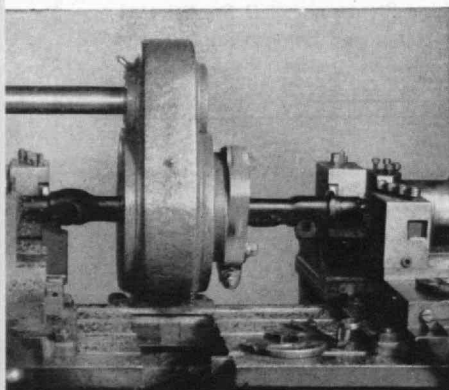
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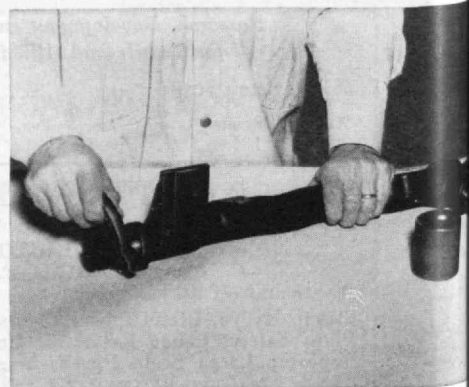
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The Institute emerged from World War II with a twofold financial problem. First, there was the immediate need for capital funds to finance the important conversion to peacetime activities in preparation for the many new responsibilities and opportunities which lay ahead. This need was met through the \$20,000,000 Development Drive, the successful completion of which provided many urgently needed additions to plant and facilities and underwrote the Institute's educational program with a new strength and independence.

The second aspect of the Institute's financial problem is the need for sufficient new funds to guarantee the continuing support of its long-range program. This need must be met by grants from industry and foundations, by current gifts, and by bequests from individuals.

In the past, bequests have provided a very large part of the endowment and building funds which have been established and are helping to maintain many of our valuable educational institutions To safeguard the future of M.I.T., the number of "Gifts by Will" from Alumni and friends must be increased.

M.I.T. invites you to consider the opportunities for worth-while achievement in the years to come by including the "Massachusetts Institute of Technology" among those to benefit from the accomplishments of your life.

A booklet "Gifts by Will," outlining different forms of bequests to M.I.T., is available to you or to your attorney by writing to:

M.I.T. Development Office
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Alumni AND Officers IN THE News

Proudly Presented

JEROME C. HUNSAKER'12, M.I.T. Professor of Aeronautical Engineering, Emeritus, Lecturer, and Chairman of the National Advisory Committee for Aeronautics, was presented the Langley Gold Medal by the Smithsonian Institution. Dr. Hunsaker's citation read in part as follows: "... in recognition of your unique and superlatively important contributions to aeronautics as a distinguished designer of aircraft, as the creator of a great center for instruction in aeronautical engineering, and as the scientific genius under whose leadership the present-day N.A.C.A. has become the world's greatest scientific aeronautical research organization." The Langley Medal is presented by the Smithsonian Institution "only upon occasion"—for especially meritorious investigations in the aeronautical sciences.

KENNETH E. BELL'17 is the recipient of the 1955 Honor Scroll of the New England Chapter of the American Institute of Chemists. The citation read as follows: "In recognition of his long service to chemists and chemical engineers in New England through his active participation in professional society affairs, and of his untiring work in bringing to the leather industry the benefits of modern technology."

CHARLES ALLEN THOMAS'24, President of the Monsanto Chemical Company and a key figure in the World War II atomic energy program, has been selected as 1955 winner of the American Chemical Society's Priestley Medal, highest honor in American chemistry. The medal goes to Dr. Thomas for "outstanding services to chemistry." Presentation of the award will take place at the Society's 128th national meeting in Minneapolis next September.

Obituary

HERBERT G. PRATT'85, January 15.
CASSIUS FOSTER'90, July, 1954.*
FRANK M. GREENLAW'90, April 5.*
CHARLES O. LENZ'92, April 5.*
FRED B. STUDLEY'93, March 9.*
WILLIAM R. BURROWS'94, March 2.*
FRANK B. MASTERS'95, March 25.
HARRY J. SHEAFE'95, January 19.*
CHARLES A. PHILLIPS'95, November 21, 1954.*
JOHN W. AMES'95, December 17, 1954.*
CHARLES K. CUMMINGS'96, January 18.*
DAVID J. SPENCE'97, March 22.*
FRANK B. PERRY'98, February 25.*
EDWARD B. RICHARDSON'98, March 5.*
ARTHUR L. HAMILTON'99, March 20.*
CLINTON D. THURBER'00, March 20.
CHARLES DENNISON'01, May.
EDWIN T. ROBBINS'01, March 15.
GEORGE H. FRENCH'02, February 13.*

Applauded Appointments

C. C. FULLER'18 has been appointed vice-president of the Foxboro Company, Foxboro, Mass.

HAROLD C. WEBER'18, M.I.T. Professor of Chemical Engineering, has been appointed chief of the National Advisory Council by the Chief Chemical Officer, Major General William Creasy.

DANA C. HUNTINGTON'21 was elected executive vice-president of the Dennison Manufacturing Company, Framingham, Mass.

AUGUSTUS B. KINZEL'21 was elected vice-president of research, Union Carbide and Carbon Corporation. Dr. Kinzel has been engaged in research work with Union Carbide and Carbon Corporation since 1926.

F. M. BANKS'22, President and General Manager of the Southern California Gas Company, has been elected to the board of trustees of the California Institute of Technology.

DUNCAN R. LINSLEY'22 has been elected to the new post of vice-chairman of the First Boston Corporation.

JULIUS A. STRATTON'23, Vice-president and Provost of M.I.T., has been appointed chairman of a committee formed in response to a request of the Administration that the National Academy of Sciences counsel with the government on its policy with regard to relationships between questions of loyalty and the awarding of government grants and contracts in support of unclassified research.

A. D. MATARESE'24 has been elected president of the Brockton Taunton Gas Company, Brockton, Mass.

JOHN J. WILSON'29 has been elected president of the Datamatic Corporation, a company newly formed by The Minneapolis-Honeywell Regulator Company and Raytheon Manufacturing Corporation to develop and exploit electronic data-processing techniques.

CAPTAIN PHILIP W. SNYDER'32, Commander of the Boston Naval Shipyard at Charlestown, Mass., has been promoted to rear admiral.

WARREN D. FORD'34 has recently been elected vice-president of the Jarvis Engineering Company, specialist in industrial refrigeration and air-conditioning.

JOHN T. HOWARD'35, Associate Professor in the Department of City Planning at M.I.T., has been re-elected president of the American Institute of Planners.

JOHN F. SNOW'35 has been named president of the Power Fan Manufacturers Association. The organization is made up of 33 member companies from all over the United States.

JOSEPH A. MCGINNISS'40 was elected president of The Construction Specifications Institute at the National Association's eighth annual meeting in April, in Washington, D.C.

ARTHUR GINGRANDE'41 has been appointed acting chief engineer of CBS-Hytron's local receiving tube operations, Newburyport, Mass.

WALTER H. LOB'41 has been made associate professor of research in communications at Northeastern University, Boston, Mass.

B. DAVID HALPERN'43 has been named research director of the Borden Company's Chemical Division Research Laboratory in Philadelphia, Pa.

FRANCIS P. GALAHER'02, March 17.*
FREDERICK H. HUNTER'02, March 31.*
PHILIP C. PEARSON'02, January 27.*
JAMES N. GLADDING'05, January 31.
GEORGE W. FAY REED'05, March 15.*
WALTER L. WHITTEMORE'05, March 20.*
PAUL N. CRITCHLOW'06, January 2.*
SAMUEL S. DARGAN'06, November 30, 1954.*
PARK V. PERKINS'06, February 18.*
JOHN M. FITZWATER'10, March 21.*
HENRY R. ELWELL'10, January 27, 1954.
EUGENE A. COUPAL'11, February 15.*
STIRLING H. HARPER'15, March 9.
MARION W. HULSE'15, December 29, 1954.*
CHARLES W. NOYES'15, March 31.*
WALLACE S. THOMAS'15, January 1.*
CHARLES H. CHANDLER'16, October, 1954.*
ROSWELL M. RENNIE'16, March 3.*

EDWIN M. WOODWARD'17, March 24.
EDWIN J. CAMERON'18, March 21.
JOHN COSGROVE'19, December 21.*
MAURICE DE LA SALLE KEARNEY'21, date unknown.*
WALTER MAXWELL FIFE'21, April 22.
ROBERT W. LEAROYD'25, April 13.
CHARLES H. JOHNSON, JR., '27, January 23.
NORMAN M. DAHL'29, March 29.
AGNEW A. TALCOTT'32, March 23.
CHARLES J. ALBA'33, April 9.*
RODOLFO R. ROSAS'33, April 7.
JOHN JENNINGS FERGUSON'37, March 8, 1954.
DEXTER R. WELLS'42, April 3.
HARRY B. HAHN'45, July, 1952.
W. DANFORTH COMPTON'47, April 1.
FRANCIS B. MAXWELL'49, October 21, 1953.*
JAY A. CAREY'51, February 17.
* Mentioned in Class Notes.

News FROM THE Clubs AND Classes

CLUB NOTES

Baltimore

The weekly luncheon group of the M.I.T. Club of Baltimore held at the Engineers' Club of Baltimore on Monday, March 21, 1955, had the pleasure of the attendance of Oscar H. Horovitz'22 who presented a colored sound movie on the new Hayden Memorial Library. This movie, which the State Department of our government found so interesting that it bought a copy to be shown through its information service, was thoroughly enjoyed by everyone. We hope we will be able to have Mr. Horovitz show us another of his excellent productions in the not too distant future. — RANDOLPH J. PETERSEN'27, *Secretary-Treasurer*, 4007 Deepwood Road, Baltimore 18, Md.

Boston Luncheon

At the meeting of the Boston Luncheon Club on March 17, 1955, 44 members were present to hear Antoine M. Gaudin, Richards Professor of Mineral Engineering, talk on "Power Politics — Coal, Oil, and Uranium."

Uranium may well be king as a source of power 50 years from now, supplanting both oil and coal. Our present cost of producing electric energy using the fossil fuels ranges between four and seven mills a kilowatt hour in the United States and estimates are that the cost would be around 12 mills from uranium. Some observers think that our estimates are too high, however, and one Canadian guess is around 10 mills. In any event, it seems certain that the costs can be reduced over a period, and in looking ahead at the future supply and demand for power, it seems safe to assume that uranium will become competitive with coal and oil and that our requirements for power will continue to grow at a rapid pace.

Two features of uranium make it exceedingly attractive as a source of power. One is that it is an eminently transportable commodity, unlike coal and, to a lesser extent, oil and gas. Since one unit weight of U-235 has several million times the energy content of an equal unit weight of coal, the historical pattern of the growth of centers of culture in areas close to the sources of power will no longer be necessary. The second is that our supplies of fossil fuels will be exhausted eventually, and we must uncover alternative sources of energy if our civilization is to endure. Our coal supplies may last about several hundred years at their current rate of consumption. United States oil reserves are estimated at about 20 years' supply, and although it is true that the rate of discovery has managed to keep our reserves fairly constant at

this level, Professor Gaudin would hazard the guess that the world's oil will probably not last as long as the coal. Uranium supplies, on the other hand, can provide somewhere between 10 and 50 times as long a fueling of the economy as coal and oil.

Power politics are likely to enter the picture both because of uranium's attraction as a future source of energy and because of its transportability, and of its geographic distribution. Deposits are found in the Colorado plateau, Florida phosphate rock, and in Kentucky shale, in this country. Canada has substantial mines, but the most important to date are in the Belgian Congo. Increasingly large quantities are also recovered now as a by-product from numerous gold mines in South Africa and this promises to become our largest source; Australia also has large deposits, and lesser sources occur in Sweden, Portugal, and central France. Behind the Iron Curtain are the established deposits in Bohemia, and perhaps others that we do not know about. In general, supplies are fairly widespread, but more spottily scattered than coal or oil. This situation means that if a large deposit were discovered in a small, backward, and weak country, the field would be open to power politics much more aggressive than we have ever seen in regard to fossil fuels.

The current economics of uranium production are completely arbitrary, as the government establishes prices designed to pay the costs, depending on each mine, and to allow a profit. The commercial value of the metal is currently nil, and will remain so until it becomes competitive with coal and oil. Its value then may become very substantial, perhaps approaching that of gold.

In reply to a question on production costs, Professor Gaudin said that the South African gold mines could operate profitably on gold recovery of as little as 0.2 ounce, or \$7.00 a ton. The milling and leaching with cyanide costs about \$1.00 a ton, and the by-product recovery of uranium adds substantially to this processing cost, but not 10 times as much. — V. T. ESTABROOK'36, *Secretary*, B. Standish Ayer and McKay, Inc., 50 Congress Street, Boston 9, Mass.

Central New York

The M.I.T. Club of Central New York held their second meeting of the season at the University Club, Syracuse, N.Y., on March 23, 1955. Erwin H. Schell'12, Head of the Department of Industrial Management, addressed the group on "New Frontiers at M.I.T." Professor Schell briefly described the current research activities of the various departments in a nontechnical, highly interesting manner. This was Ladies Night, in honor of Mrs. Schell, who accompanied her husband. Notwithstanding the varied

interests and technical knowledge of such a group, Professor Schell had the complete attention of everyone present throughout his talk. If there is any higher praise for a speaker, I do not know of it.

Among those attending were: Mr. and Mrs. W. Kenneth Bodger'40, Joseph H. Copp'39, Mr. and Mrs. Donald W. Dieffendorf'30, Russell Eddy'33, Mr. and Mrs. Harold P. Gray'16, Mr. and Mrs. Edwin A. Gruppe'22, Mr. and Mrs. Richard S. Haven'42, Mr. and Mrs. Luke S. Hayden'41, Elmer C. Hughes'30, Mr. and Mrs. Fred S. Hungerford'24, Mr. and Mrs. Marshall W. Jennison'30, Mr. and Mrs. J. H. Kaiser'19, Mr. and Mrs. Donald L. Kidd'42, Mr. and Mrs. D. Earle MacLeod'38, Paul G. MacNeill'47, Irwin Manning, Leo J. Martin'48, Mr. and Mrs. Arthur E. Meling'22, Mr. and Mrs. John S. Middleton'29, Fred C. Mitchell, Jr., Mr. and Mrs. Edwin L. Moyer, 2-44, Mr. and Mrs. Dewey J. Sandell'49, and Mr. and Mrs. Donald E. Stearns'29. Hamilton Herman'43, Special Administrative Assistant at the Institute, was in town that day and also attended our meeting. — EDWIN L. MOYER, 2-44, *Secretary*, Box 25, Colvin Station, Syracuse 1, N.Y.

Chicago

The coming of spring to Chicago brought with it the sound of the gurgling of oil as far as more than 100 members of the M.I.T. Club of Chicago and their guests were concerned, for this group heralded the advent of warm weather by gathering on Thursday, March 31, to hear David Shepard'26 discuss the international oil situation. The dinner meeting, the fifth in this year's interesting series of events, was held at the Builders Club, a comfortable and friendly spot located high up in one of the Loop's office buildings. With a number of the veteran members in attendance, every one was very glad to see many new faces as well as those of friends who hadn't been able to get to meetings for some time. As a side line to the evening and contributing to the international flavor of the speaker's subject, Gus Bouscaren'04 was heard talking to Pete Lavedan'20 in French about his recent travels in Europe and the Middle East. Especially well represented at the meeting were Tech men from Standard Oil Company of Indiana.

Following dinner President Bob Wise '28 announced the final meeting of the year as a luncheon to be held in May. Bob Gunness'34 introduced the speaker, who is a director of the Standard Oil Company of New Jersey; also a rotating member of the Executive Committee of the M.I.T. Corporation. Mr. Shepard spoke of the work being done by M.I.T. to train technicians for the future. As an example, a new course known as Course XXI was cited, which is to consist of 60 per cent science and 40 per cent humanities. It was pointed out that a knowledge

of human relations is very important to the scientist. As an example Mr. Shepard discussed the breakdown of relations between England and Iran over the Abadan Refinery which resulted from a lack of mutual confidence between the groups involved due to a breakdown in human relations. The problem was largely solved by a group of eight American oil firms who worked out a plan together and then as a group worked with the American State Department and the Iranian government to build up mutual confidence and to start the oil flowing again.

For a pleasant evening bouquets go to Bob Gunness'34 and Leonard Russum'47 who had charge of the dinner arrangements. — ROBERT S. FAUROT, 2-44, *Secretary*, 4115 Ogden Avenue, Chicago 23, Ill.

East Tennessee

The University of Tennessee was host to the M.I.T. Club of East Tennessee at a dinner meeting held April 1 at the new Carolyn P. Brown Memorial University Center. Arrangements were made by Howard P. Emerson'28, Professor of Industrial Engineering, who found so many representatives of the University and local industry who wanted to hear our guest speaker that the M.I.T. men were nearly outnumbered. The occasion was a visit by Professor and Mrs. Erwin H. Schell'12. Professor Schell addressed us on his apparently favorite subject of "Training for Top Management." He pointed out that executives should be specially trained because demand for them increases with the population, the trend is toward decentralization of top organization authority, a company must establish continued excellence of organization, and the hazard of obsolescence is so great that executives part way up the ladder must be kept up to date. He gave us a complete description of the Sloan program for training executives at the Institute.

Non-M.I.T. attendants were Nathan W. Dougherty, Dean of Engineering at the University of Tennessee and President of the American Society for Engineering Education; Leonard Dugan, of Appalachian Mills and the American Institute of Industrial Engineers; Allen H. Keally, Professor in the College of Business Administration, University of Tennessee; Mr. and Mrs. H. R. Werkheiser, representing the Society for the Advancement of Management; and Messieurs Dykes, Huber, Lane, Mackle, and Swazey of various organizations at Oak Ridge. M.I.T. Alumni were Dr. and Mrs. Robert D. Birkhoff'45, Mr. and Mrs. Howard P. Emerson'28, Mr. and Mrs. Ralph M. Ferry'12 (Ferry as a classmate introduced Professor Schell), Mr. and Mrs. Robert Forbes'33, President A. Carleton Jealous'42, Mr. and Mrs. Albert G. Kern'34, Archibald H. Kinghorn'20, Mr. and Mrs. George P. Palo'28, Mr. and Mrs. Robert R. Stephenson'51, Mr. and Mrs. Joseph D. Stout'47.

Emerson's part in arranging this fine meeting was particularly appreciated by your correspondent, who on March 4 had become incapacitated by an upper left arm fracture sustained in a stepladder

accident while remodeling his home on a do-it-yourself basis. We are pleased to report that we are still doing it, two-hand operations being slightly impaired for a while, but no longer out of the picture. — ROBERT FORBES'33, *Secretary-Treasurer*, TVA, 704 Union Building, Knoxville, Tenn.

Kentucky

The M.I.T. Club of Kentucky has climaxed the spring season with two fine meetings. Our annual spring dinner meeting was held March 30 at the Louisville Country Club. Erwin H. Schell'12, Professor of Industrial Management, M.I.T., was our guest speaker, giving us a survey of "New Frontiers at M.I.T." This very interesting talk, given in Professor Schell's friendly manner, brought the members and guests up to date on the many projects which are under way at the Institute today. The presence of Mrs. Schell and the ladies added to the conviviality of the evening. Earlier in the day Professor Schell lunched with the Course XV Alumni and we all enjoyed reminiscing over old days at Tech. On April 4, the monthly luncheon meeting of the Club was held at General Electric Company's Appliance Park where we were the guests of John R. Poteat'18. After a fine steak lunch we toured the Electric Range Division of the plant. Following this tour, Byron Burch'51, gave us a view of General Electric's Univac installation.

Those present at these meetings were: Frederick Stover'10, Everett Cowen'07, John R. Poteat'18, Craig P. Hazelet'18, Frank I. Fonaroff'22, Charles Breitbeil'22, Everett C. Brown'23, Albert M. Prentiss'25, Albert L. Entwistle'26, Melvin Sack'28, Elmer Skonberg'29, Richard F. Wilder'31, Arthur Cary'34, George Morrisette'35, Frank P. Wardwell, President'38, Donald Dissly'43, John L. Dawson, Jr.'44, James R. Kane'47, Franklin R. Amthor, Jr.'48, Howard D. Edwards'45, Harry S. Scales'46, Melvin E. Salvesson'47, John D. Harms'48, Ted Metzger'50, Byron F. Burch'51, Eugene Koch'51, David R. Goodman'40, Walter R. Weeks'24. — JAMES R. KANE'47, *Secretary*, 308 Biltmore Road, Louisville 7, Ky.

Northern New Jersey

There was a meeting of the officers, Board of Governors, and committee chairmen on Wednesday, March 29, at the Hotel Suburban in East Orange at which time final plans were formulated for our last meeting of the year. This spring meeting will be a special gala affair commemorating the Club's 20th Anniversary.

Clayton D. Grover'22 will be the master of ceremonies for this dinner meeting. All past-presidents have been invited and W. J. (Bill) Grady'22 will present the history of the Club along with some of the spirited comments for which he is famous. The guest list for this meeting includes Dike Arnold'27, president-elect of the Alumni Association and D. P. Severance'38, *Secretary-Treasurer* of the Alumni Association. The guest speaker for the evening will be John E. Arnold, As-

sociate Professor of Mechanical Engineering, from the Institute, who will discuss "Creative Engineering." It is hoped that all of you will be able to attend this 20th Anniversary meeting of the Club which is to be held on Wednesday, May 11, at the Hotel Suburban in East Orange.

Treasurer Joe Wenick'21 reported on the status of the scholarship fund. As you all know, the Club is awarding a \$500 scholarship this year in honor of its 20th anniversary. To date 65 donors have given \$644! So you can see we do have quite a lot of club spirit in that we exceeded our goal by nearly 30 per cent with the average contribution being slightly less than \$10 per donor. Congratulations to everyone of you who has helped to make this very noteworthy activity of the Club such a success. It is gratifying to know that a special project such as this could be self-supporting. Moreover, contributions are still coming in. We trust that future activities of this nature by the Club will be just as successful.

Joe Wenick also reported that as of March 28, 1955, the Club had 185 members consisting of one honorary, 51 sustaining, 110 active, 17 active (graduates out five years or less), and six active (graduates of the most recent class). In addition, there is cash on hand in the Club's treasury of \$1049.62 as of this date. — STUART G. STEARNS'39, *Secretary*, 25 Elmwood Place, Short Hills, N.J. JOHN T. REID'48, *Assistant Secretary*, 80 Renshaw Avenue, East Orange, N.J.

Southern California

The M.I.T. Club of Southern California held a dinner meeting March 24 at Los Angeles, attended by about 80 people. Following the reports of Program Chairman Tony Thormin'27 and Secretary Hal Seykota'39, President Sam Lundeen'21 introduced the main speaker, H. Royce Greatwood'25, who talked about "The Orient — Its Economics, Ideologies and Political Background." Colored slides illustrating the natural beauties of the Orient were shown and explained. The lecture was enjoyed by all. Among those attending were: Mr. and Mrs. Joseph Altieri'49, Mr. and Mrs. John M. Andreas'37, Mr. and Mrs. Hiram E. Beebe'10, Mrs. Kenneth Khan, Z. M. Briggs'00, Howard Britton'38, M. G. Communtzis'50, Mr. and Mrs. George M. Cunningham'27, H. S. Currier'13, Homer S. Davis'24, Richard S. DeWolfe'36, Mr. and Mrs. John F. Downing'46, Marc G. Dreyfus'50, F. E. Forbes'52, William K. Geist'50, Mr. and Mrs. Page E. Golsan'12, Mr. and Mrs. Page E. Golsan, Jr.'34, Mr. and Mrs. Albert E. Hayes, Jr.'42, Mr. and Mrs. Rockwell Hereford'24, William Hewitt'51, R. M. Kallejian'16, L. H. Littlefield'17, Mr. and Mrs. William C. Lynch'12, Samuel E. Lundeen'21, Mr. and Mrs. William H. MacCallum'24, Everett Martin, Desaix B. Myers'08, Darrell R. Nordwall'21, Mrs. Virginia T. Norwood'47, Mr. and Mrs. J. W. Reis'19, Mr. and Mrs. Lewis P. Reitz, Jr.'37, Mr. and Mrs. W. B. Rivers'15, H. A. Schapiro'54, Mr. and Mrs. William Seiler, Jr.'51, Harold R. Seykota'39, Louis Stark'50, Mr. and Mrs. Harold H.

Strauss'38, Anthony M. Thormin'27, Mr. and Mrs. William Van Vorst'43, Mr. and Mrs. F. H. Walcott'44, Mr. and Mrs. Robert Welles'15, Mr. and Mrs. Fredrick R. West, Jr.'54, Thor Wiener.

The Club held a luncheon meeting on Thursday, April 14, at the Los Angeles Athletic Club. President Sam Lundeen'21 introduced Zenas Briggs'00, who was celebrating his 79th birthday. Sam presented Mr. Briggs with an M.I.T. beer stein and with a birthday card autographed by all those present. Program Chairman Tony Thormin'27 introduced Page Golsan, Sr.'12, who presented the speaker, John Barnes'28, who is now a professor at U.C.L.A., and who spoke on the subject "Automation." In the discussion period that followed, the point was brought out that automatic machines will probably not be able, in the future, to reproduce themselves; therefore, automation will never take the place of sex.

About 35 Alumni attended, including: Bill MacCallum'24, Roger Hayward'22, Richard S. DeWolfe'36, Hiram E. Beebe'10, Stan Zemansky'37, Robert Wells'18, Zenas Briggs'00, Virginia T. Norwood'47, Sam Lundeen'21, Elwin I. Noxon'47, Warner Knight'41, Hal Seykota'39, Warren Murdock, Jr., 10-44, B. Burchard, Homer S. Davis'24, Alex Thackara'39, William L. Jack'44, Lloyd T. Buell'05, Frank E. Reeves'24, Anthony Thormin'27, Page Golsan'12, John L. Barnes'28, Bill Barton, 10-44, William K. Geist'49, Donald B. Guy'47, William R. Hewitt'51, Robert McKenzie'31, J. R. Mattson, U. of Minn.'49 — HAROLD R. SEYKOTA'39, *Secretary*, c/o R. T. Collier Corporation, 714 W. Olympic Boulevard, Los Angeles 15, Calif.

CLASS NOTES

• 1885 •

Herbert G. Pratt died January 15, 1955, at his home, 100 Bellvue Street, Newton, Mass., after a prolonged illness. He was the first president of his Class and again during the past few years. A very fine and popular man, he entered the first class in electrical engineering that was established at M.I.T. After graduation he became treasurer of the Electric Light Company in West Newton, Mass. Later he became the first treasurer of the Samson Cordage Works, taking office in 1888 and holding that position 50 years. In 1916 after the death of James P. Tolman, the Company's first president, Mr. Pratt was elected president and carried the duties of both president and treasurer until his retirement in 1938. He continued as a director until 1953, serving the Company untiringly in this capacity for a total of 65 years. Quoting from the resolution passed by the Directors in February of 1955: "His foresight and diligence were largely responsible for the success and present standing of Samson Cordage Works. His character, his sense of fairness and his generosity endeared him to his many friends and associates through-

out his long and useful life." — ARTHUR K. HUNT, *Secretary*, Longwood Towers, Brookline 46, Mass.

• 1890 •

The 65th reunion notice brings replies from several who will not be with us. Creden writes from Butte, Mont.: "I cannot go, much as I would like to, not because of my health, which is excellent for one of my age, without ache or pain anywhere, and keen of mind and memory . . . I am afraid of the tiring effect of unaccustomed distant travel, and that is of determining importance. I will be too old for merry-making and back-slapping. I am just a tweedy pipe-smoker. . . . With cordial happy greetings to those who attend." From Curtis, who spent two months in Florida this year, we have no reply. From De Bullet we have no direct word, but he contributes to the Alumni Fund from the Keswick Memorial, Keswick and 40th Street, Baltimore 12, Maryland. Franklin Knight is "slightly arthritic" but able to walk two or three miles and enjoy it. He continues as Chaplain of the Old Ladies Home, with regular duties. He asks "God's blessing for the members of the Class of 1890, always, and wherever they may be." Flint's address is now Box 201, West Chester, Pa.

A year after Pierre du Pont's death some additional information concerning his estate is being published, and a Philadelphia correspondent believes over \$70 million may go to the Longwood Foundation, though the State of Pennsylvania has appointed three special attorneys general to press the claim that Pierre was a legal resident of that state, with inheritance taxes to be paid there. Cassius Foster, who took Course II but did not graduate, died last July at South Hamilton, Mass., where he had been living with his daughter. For several years he lived in Toledo, and was connected with the Toledo Bridge and Crane Company but by 1936 he was at Burt Lake, Mich., and had retired.

Frank Greenlaw died on April 5 after a four-day coronary illness. As reported in the April Review he had recently taken the lead in organizing the Newport Taxpayers Association, serving as its temporary chairman. This was the last of a long series of public spirited activities with which Frank was connected. The Newport *Mercury* says he is believed to hold the record for long service to a city in uncompensated positions. As a member of the Board of Health for 50 years he was responsible for milk pasteurization after a diphtheria epidemic, the securing of dental care for school children, and founded the Public Nursing Service. He personally supervised the sewer system planning, the various major projects, the layout of the main and the sewage treatment plants. From George Gilmore's notes we learn that after leaving Tech he put in two years at Brown University, took a course at Harvard, and taught at various New England High Schools. In 1904 he became head of the Rogers High School, and director of the Coles Laboratories at Newport, R.I. — GEORGE A. PACKARD, *Secretary*, 25 Avon Street, Wakefield, Mass.

• 1892 •

Charles O. Lenz died at his home in Summit, N.J., after a long illness. He was with us in the School of Mechanical Arts and at a number of class reunions in the past. He leaves a wife, Elizabeth Carver, son Winthrop and two daughters, Mrs. Douglas Levick of Princeton, N.J., and Mrs. Proctor Baker, of Vernon, N.J. The Secretary is looking forward to a meeting with classmates at our reunion this coming June. — CHARLES E. FULLER, *Secretary*, Box 144, Wellesley 81, Mass.

• 1893 •

Just about the time the Class of 1893 is having its reunion the June issue of The Review will be in their hands. It is interesting to note in letters we have received from Mrs. Edna Wadsworth Moody that her book *We Are Here — Why?* has been republished by Marshall Jones Company of Francetown, N.H. We are sure that the many fine letters Mrs. Moody has received since the book was first published have made her very happy. Since the last issue of The Review we received a letter from Mrs. Fred Studley advising us that her husband and our classmate passed away on March 9, 1955, after a year of failing health. Mrs. Studley's letter makes mention of the pleasure her husband received in reading about his classmates in the Class Notes. — GEORGE B. GLIDDEN, *Secretary*, 99 Chauncy Street, Boston 11, Mass. GERTRUDE B. CURRIE, *Assistant Secretary*, c/o Fay, Spofford and Thorndike, 11 Beacon Street, Boston 8, Mass.

• 1894 •

Thanks to the Secretary of the Class of 1921, a clipping from the Newark *Evening News* of March 3 was forwarded to the Secretary, and brought to him the unhappy tidings of the demise of another of our classmates of the early years. William Russell Burrows of 378 Oakwood Avenue, Orange, N.J., a retired vice-president of the General Electric Company, died on March 2 at the Presbyterian Hospital after a brief illness. He was 82 years of age. Burrows was a native of Lynn, and entered the Institute of Technology from there in September 1890, but did not return after the freshman year. The clipping was in error in stating that he received the M.I.T. degree in electrical engineering, although his life was spent in this field.

Apparently he was a resident of Newark in 1891 for he lived there for 33 years, and then 30 years in Orange. He found employment with the General Electric Company, and was associated with that company for more than 50 years in Schenectady and in New York, and in this period he advanced to the position of vice-president in charge of manufacturing. He retired in 1945. He was a member of Essex County Country Club and of the Highland Park, Florida, Club. Interested in civic and religious affairs, he was for some time the superintendent of the Sunday School of First Baptist Peddie Memorial Church. He leaves his wife, Mrs. Helen Liese Burrows, two sons, William R., Jr., of Pittsfield, Mass., and Alan L. of Schenectady, a daughter, Mrs.

Philip Reagan of Pittsburgh, and eight grandchildren. Although he found it impossible to maintain his interest in the Class in an active way he generously contributed to the class fund presented to the Institute at the time of our fiftieth anniversary of graduation. Like so many others in the early days he apparently appreciated his Technology connection and was a loyal alumnus. We regret his passing, and extend our sympathy to the family.

The Secretary writes too much about himself, but feels sure that members of the Class will be pleased to learn that, quite unknown to himself, the Executive Committee of the Refrigeration Research Foundation has recently voted to establish a graduate fellowship to bear the name of your Secretary. Details are now lacking, but it will be of national character and the research work of the recipient may be done in any institution in the U.S. or abroad which has the proper facilities to promote scientific work in a field which will advance the broad usefulness of refrigeration in the service of man. This notable action has come about presumably because ever since the establishment of the Refrigeration Research Foundation in 1943 your Secretary has been the chairman of the Board of Governors, and one of a group which represents the broad public interests in this field of science and engineering. It is his hope, of course, that M.I.T. may often be the institution sought by the recipient because of its high reputation and exceptional facilities for advanced study in the broad field of food technology and refrigeration engineering. — SAMUEL C. PRESCOTT, *Secretary*, Room 16-317, M.I.T., Cambridge, Mass.

• 1895 •

Unfortunately we must add to our necrology records. Harry Jones Sheafe, Course III, passed on January 19, 1955, at his home, 152 Tuscaloosa Avenue, Atherton, Calif. Harry's disposition amply fitted his choice to be a mining engineer. In June, 1895, he went to Alaska, near Juneau, operating gold mines until the fall of 1898. In 1899 — mine foreman, Cripple Creek, Colo.; 1900 — amalgamator in Stamp Mills in Oregon; 1901 — superintendent Native Silver Bell Mine, in British Columbia. From 1902 to 1909 he was mining engineer for Pierre Lorillard, N.Y.; 1909-1914 — mine owner and operator in California. From 1916 on he operated as consulting mining engineer. He joined the Engineers Corps in February 1917, and for two years he saw service as Captain, Engineers, U.S. Army. While in France he volunteered for gas service and went to the Army Gas School at Langres for a month's training. He was made Chief Gas Officer of the 82nd Division and served in this capacity for six months; being relieved of duty he returned to the United States and was mustered out at Camp Kendrick, N.J., December 1918. Our class records contain transcripts of many of his interesting yet somewhat harrowing personal experiences while in Army service. During his later years he followed his consulting work. In June, 1951, he finally settled in Atherton, Calif.

Word received through the Alumni Register tells of the passing of Charles Abbott Phillips, Course IV, on November 21, 1954. Phillips was with the Class from 1892-1895. The Class has little information of his life work, other than he entered real estate business in Evanston, Ill., after leaving Tech, and continued in this capacity for many years.

John W. Ames, Course IV, passed on December 17, 1954. Ames was originally affiliated with the Class of 1898, but during the early 30's he transferred his "affection" to the Class of 1895. He was first located at 15 Exchange Street, Boston; his latest address was 150 East 81st Street, New York. Information of his passing was received from clipping.

Andy Fuller recently received a letter from Mrs. (Margaret) Fay Reed, now living at 45 Heath Park Avenue, Cardiff, Glam, Wales, England, stating that her husband, George W. Fay Reed, had passed on March 15, 1954. Reed was with the Class from 1891-1893, in Course III, X. For some time your Secretary had no other address than c/o Orchestrelle Company, London, England. Finally during November, 1934, he was located at Hotel BelGair, East Bourne, Sussex, England. Since 1934 we have had no word of his doings or whereabouts. Fuller's memorandum brings us up to date.

Dr. Walworth has returned to Andover after his winter sojourn in Florida. Perley F. Gilbert is now living at 25 Bartlet Street, Andover, Mass. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

Your Secretaries send greetings and trust that your plans for out of door recreation may not be hampered by too restricted planning by your physicians. There have been some inquiries as to what extent the Class of 1896 will honor the coming Alumni celebrations. It occurs to the Secretaries that we repeat the general plans of last year. In other words, having a 1896 class room at the Statler Hotel for general purposes of resting before the annual banquet and enjoying discussion of current subjects at our leisure. The cocktail hour will be injected we hope painlessly from four o'clock on. We received a word from Henry Hedge, who seems in excellent spirits and enjoying good health. Have received notice of the death of Charles K. Cummings, Prides Crossing, Mass., on January 18, 1955. The following letters from our classmates Marshall Leighton and Henry Sears will be of interest to all of you.

"Dear John: What are the plans for this coming June? Hope I am not too 'previous,' but your newsy column in the March Review has wakened me a bit. I wish we might have another get-together soon. It would be lots of fun to 'chin' with Henry Waterman about a trip in my Sophomore year at M.I.T. to Grand Pré, Henry Hedge and I should swap fishing yarns. Myron Pierce perhaps would tell me of his success with the 'would-be' spoilers of Boston Common. The years have dealt kindly with me. I have taught math classes until last January and still go on with tutoring work. The Faculty

here at the University have been most friendly and my students most appreciative of my work for and with them. I do not feel 'put away on the shelf' by any manner of means. I live with my daughter and my three grandchildren: Natalie, 19, Kent and Page, twin boys, 15. Here's hoping I may be able to see them all through college. Enclosed is a small check that I want you to add to our class fund. Best of wishes to you and Fred. Henry K. Sears." From Marshall Leighton we received the following: "Dear John: The interesting statement of our beloved Class Secretaries, set out in the March number of The Technology Review, reintroduces my oft-repeated question, namely, 'How many members of my Class are still active in their professions or businesses?' From your March statement, it appears that Litchfield and Hyde are still pushing along, and while the paragraph about Coolidge gives no assured information, it is a fair inference that he is active, notwithstanding the statement that he was 'formerly vice-president and director of research for the General Electric Company.' To me this is cheering news. Sometimes I have wondered if I were the only classmate still daily pursuing the old job. The possibility that it might be so has given me a lonesome feeling, but now that I have assurance that there are others, I can proceed on my course with the comforting thought that I am not such a queer old codger after all. I suppose that it would be a tedious job to compile and publish a list of the fellows, classified into 'retired' and 'active.' It would probably be incorrect as to any subsequent date, but it would doubtless make interesting reading.

"Every little while I come across Bill Clifford at the Metropolitan Club here. He continues to be as interesting as he was when we were boys together up in Portland, Maine. Mrs. Clifford also is a native of that place, and a long time ago we three attended the same grammar school. Bill and Mrs. Clifford still occupy their country residence out in Aldie, Va., and their sons have grown up to be Virginia gentlemen. I continue to be retained as consulting engineer by many electric public utility companies, and especially during the past five years, have been active in doing my share of the work in connection with large hydroelectric installations, especially in the Pacific Northwest. This may seem to be a strange destination for a Course VII man, but it has been proved over and over again, that usually the receipt of a diploma signifies merely that the recipient is fairly qualified to start on an intelligent apprenticeship. Your reference to Oliver Wendell Holmes' 'The Last Leaf on the Tree' is particularly gracious. Whether or not it shall prove that I or some other classmate shall be that last leaf is, of course, to be determined by a kind Providence. I proceed from day to day in a manner appropriate to my age and fairly sound condition of health, and if it shall eventuate that I am not to be that last leaf, that will be all right too. With high regard, Marsh." — JOHN A. ROCKWELL, *Secretary*, 24 Garden Street, Cambridge 38, Mass. FREDERICK W. DAMON, *Assistant Secre-*

tary, Commander Hotel, Cambridge 38, Mass.

• 1897 •

It is clear that others besides members of our Class read these Class Notes. As proof of the above statement the December issue of *The Review* had just been distributed when some enterprising reporter of the *Chicago Tribune* copied in full Irene du Pont's letter which appeared in the 1897 December Class Notes, and the copy appeared in the *Chicago Tribune* of December 12 accompanied by a very poor picture of our classmate. The headline of the article which was sent to the Alumni Office by a clipping bureau reads: "Du Pont with no T.V. gives thumbnail sketch of life." Later Proctor Dougherty writes that "In the March issue of *Holiday*, page 108, there was a picture of Irene sitting on the end of a table in his Wilmington home 'Granogue.' It describes him as being hale and hearty at 78 and he certainly looked so in his comfortable sitting room."

A letter from George Wadleigh dated March 15 proves that his strenuous efforts in solicitation for the Alumni Fund is producing excellent results and that 1897's record in the past is not only being well maintained but even exceeded because of his good work. As of that date he wrote, "1897 is at the top in the percentage of the members of the Class contributing and our average contribution is double the average gift from all classes. Not bad but we can do better. I will send you a list of those who have contributed and you may be able to add to those who have not but might." Doubtless everyone realizes that this year's proceeds of the Alumni Fund will go to the Karl Taylor Compton Memorial Laboratory. Furthermore, when the drive is over, an anonymous donor has agreed to double the total amount received and also two or more corporations have agreed to double the amounts given by their employees so that in such cases an individual's subscription will be multiplied at least by three if not by four. We should all try to make the most of this opportunity for M.I.T.

We were glad to learn from Don Severance, Alumni Secretary, that, whether they subscribe or not, the members of all classes 50 years out and over get complimentary copies of *The Technology Review* for 1955. This means that you are all being kept posted as to what news we have been able to extract from your mostly inarticulate classmates. You know as well as we do the interest Alumni take in reading the Class Notes. Therefore, we hope you will take the opportunity to send in some news about yourself and other classmates with whom you are in contact. We hope to see you in Cambridge on Alumni Day to renew old acquaintances.

We learned with regret from the office of the Alumni Register the sad news of the death on March 22, 1955, of David J. Spence, 3563 University Street, Montreal, Canada. As an undergraduate he was in Course IV. Walter F. Buck, Course VI, has moved to 324 Myrtle Street, Manchester, N.H. — JOHN P. ILSLEY, *Secretary Pro-tem*, 26 Columbine Road, Milton 87, Mass.

• 1898 •

Another proud father! It just comes out unconsciously. Ray Faught, 201 Athol Gate Lane, Baltimore 29, Md., has been kind enough to write us an interesting letter about himself and family, from which we quote in part. "Ray, Jr., is a chemical engineer. He has specialized in instrumentation and process control. He is supervisor of instrumentation on the atomic submarine, *Sea Wolfe*. He has been writing this year a section of the instrument *Handbook* on the subject of measurement of liquid metals. He gave a paper on instrumentation to the Albany section and was invited to give it before the Boston section."

Then follow interesting details of Faught family life, first, second and third generation; three grandchildren, boys; the celebration of Ray, Sr.'s, 80th birthday; the finishing of two rooms in Ray, Jr.'s, attic, in which Ray, Sr., happily participated; Ray, Sr., as "Chief cook and bottle washer" when he and his son were left alone for two weeks. It will be remembered that Mr. and Mrs. Ray C. Faught, Jr., attended certain of the features of '98's Golden Anniversary.

Concerning his own and wife's activity Ray writes, "We live in our old home place, four acres in the city, an old time estate with 100 year shade trees of some 50 varieties. Have a large vegetable garden, apples, pears, cherries, plums, peaches and raspberries. Am beginning to fear I can't keep it up much longer, though I say, 'if you keep moving, they won't put you underground.' Mrs. Faught has a lot of shrubs and perennial flowers; crocus, scilla and jonquils are out and you can see golden forsythia in any direction around the borders. We have lived here 31 years and Ray, Jr., grew up here from three years, so we love the place." Thanks, Ray, for a delightful and informative letter.

Our distinguished classmates, Roger Babson and Lester Gardner, are always in the news. Those who attended the Fifty-fifth Reunion will remember the Babson World Globe which was then in the initial stage of construction. It is now nearing completion, as evidenced by the following descriptions in the press. On the front page of the *Christian Science Monitor* of March 29, 1955, there is a large picture of the globe with annotation beneath, "Babson World Globe Takes Shape. At the cost of approximately \$200,000 Babson Institute has nearly completed what it calls 'the world's greatest revolving globe' on the Institute's campus in Wellesley, Mass. The globe is about 28 feet in diameter and the total weight is 37.5 tons. It is intended to show how the world would look from a distance of 5,000 miles and will be used in visual teaching to make students more world minded. Scale of the world map is 24 miles to the inch."

In the *Boston Herald* of April 8, there is another picture of the globe, with a workman standing on top, about one tenth the height of the globe, with the comment, "This World Is Easily Patched Up — A workman stands atop a \$200,000 steel globe of the world nearing completion at Wellesley. To be used by geog-

raphy students at Babson Institute of Business Administration, it is 30 feet in diameter, weighs 40 tons and can be rotated at an angle. Although Formosa and controversial islands along the China coast have not been added yet, Babson officials say globe is designed so each of approximately 500 plates can be removed for changes to keep up with world events."

On the occasion of the 200th anniversary of Columbia University, Lester Gardner took part in a ceremony as described in the "Aeronautical Engineering News" of March, 1955, as follows:

"I.A.S. Plaque Unveiled at Columbia University. On December 22, a plaque given to Columbia University by the Institute of the Aeronautical Sciences was unveiled in the entrance lobby of Columbia's Pupin Physics Laboratories by Major Lester D. Gardner, I.A.S. Founder. Speaking briefly at the unveiling, Major Gardner recalled the part played by Columbia in the Institute's early years and stated that the Institute had held its Founders' Meeting and many subsequent meetings in Pupin. The plaque was accepted on behalf of Columbia University by its President, Grayson Kirk, before a group that included university officials and I.A.S. Founder members. The plaque, which is mounted in Pupin's entrance lobby, bears the following inscription: 'In appreciation of its generous hospitality for many years, this plaque is given to Columbia University in its bicentennial year by the Institute of the Aeronautical Sciences, which was founded in the Pupin Physics Laboratories in 1932.' There is a fine snapshot of Lester, standing in front of and pointing to the newly unveiled plaque."

It will be remembered that there was a letter from Maurice Delano in the February Review, giving the new address of Haverton, Pa. When we were in Philadelphia recently visiting Professor and Mrs. Holden Furber, Mrs. Furber, daughter Elizabeth, drove us over to call on Del and daughter, Mrs. Polishook. While the two classmates reminisced about undergraduate days, class reunions, and classmates *et al*, the daughters visited. Two fine grandchildren, a son and a daughter, came home from school and were introduced; and a young dog added to the gaiety of the occasion. Before we knew it two hours had passed by. Tea was served and the visitors departed, with the happy comments that we must meet again.

Two of our classmates have recently passed within the Unseen Temple: Frank B. Perry on February 25, 1955, and Edward B. Richardson on March 5, 1955. We are hoping to secure details concerning the careers of these classmates to be included in later Class Notes. — EDWARD S. CHAPIN, *Secretary*, 463 Commercial Street, Boston 13, Mass. ELIOT R. BARKER, *Assistant Secretary*, 20 Lombard Road, Arlington, Mass.

• 1899 •

Our Class President for many years, Arthur L. Hamilton, died at his home "The Pasture" at Sugar Hill, New Hampshire, on Sunday, March 20. Ham, as he was affectionately known by his inti-

mates, was not able, on account of his health, to attend the class reunion last June and was greatly missed by all, including your Secretary, who has several times called on Ham at his rambling home on the mountain side. We will miss his dry laconic humor so characteristic of northern New England. Miles S. Sherrill, who attended Andover Academy with Ham and thus has known him for 64 years, has kindly agreed to prepare a biographical sketch which will appear in a later issue of The Review.

Hervey Skinner to whom I sent the book by Edwin Sutermeister, entitled *The Story of Papermaking*, writes me as follows: "This book is an excellent treatise on the subject of paper making. As the name implies, it is a 'story' written for the casual reader unfamiliar with the technical principles of paper making, but who would like to get a general picture of how paper is made. Sutermeister begins his 'story' by telling of the early methods employed by man in recording his achievements before the development of alphabetical characters. He discusses the various fibers used in making paper and a very general description of various processes of chemical treatment necessary to condition the fibers so that they can be converted into paper on the paper making machines. Included at the end of the book Sutermeister has given a list of about one hundred varieties of paper products with some description of their uses."

Edmund T. Stewart, IV, is another member of the Class who is still very much on the active list. He is licensed to practice as a registered architect, not only in his home state, New York, but also in Florida. He has been particularly busy in Jacksonville where he aided in the designing of several new buildings for the University of Florida at Gainesville. He also has revised real estate maps of Jacksonville. In New Rochelle, N.Y., where he lives, he has made plans for new stores, apartment buildings, and has made sketches for headquarters for the Veterans of Foreign Wars Building.

In a letter from Fred Waddell, he said his granddaughter, who attended the last class reunion with him, wished to be remembered to all members of the Class whom she met. — B. R. RICKARDS, *Secretary*, 381 State Street, Albany, N.Y. MILES S. RICHMOND, *Assistant Secretary*, Little Compton, R.I.

• 1901 •

This month the notes will consist entirely of reports from classmates in their replies to the Class Letter. Albert Galusha, II, from N.J., says in part: "While at M.I.T. I started research on gas producers. Now 55 years later, I am still at it. Gas from some of my producers was used by the U.S. government to make the largest gun ever made. Gas from my producers is used to produce nickel from low grade nickel ore. I have users of these producers starting to use them to make low cost first class fertilizer so as to perhaps grow twice as much per acre of land cultivated by the farmers. With best wishes to everybody." Clarence Brown, IV, of Haddon Heights, N.J., reports as follows: "Have been connected

with building construction ever since leaving Tech, for the past 30 years, with a firm of building contractors in Philadelphia, and from which I retired in 1951. Since then have managed to keep busy with limited activities at home in the way of gardening and odd jobs. Mrs. Brown and I celebrated our golden wedding anniversary in June 1952. We have three children and three grandchildren. I enjoy the Class Notes and was particularly interested in seeing recent mention in The Review of two of my classmates who graduated with me from Newton High School in 1897 and of whom I had lost all trace. I refer to Charlie Flint and Allen McDaniel. Al Higgins was another and I saw him at our 50th reunion in 1947 in Newton. Was sorry to hear of his death. Another was Perkins Boynton, XI, who has been in Clarksburg, W. Va., for a number of years and recently retired." Ralph Robinson, V, writing from Florida in February, says: "Since moving here four years ago, we are astounded at the rapidity of the growth of Southern Florida. Over 400 new houses are built each month in Fort Lauderdale alone. But when one sees the all year beautiful flowers, the hundreds of canals and our beaches and the wonderful climate and chances for swimming, golf and fishing, one can understand why so many people are coming here to live. I am still Honorary Secretary for M.I.T. and I interview over 50 prospective students a year. M.I.T. is very highly regarded here and we are sending a lot of fine boys to Tech." Charlie Tufts, X, in New York, writes: "Sorry to note the passing of so many of our men, and particularly Fred Sexton. He not only had much ability but was a fine companion. I have less than usual to report. As the years gather, we move more slowly and reluctantly. Recently the local M.I.T. Club gave a dinner meeting at which Drs. Norbert Wiener and Gordon Brown gave excellent addresses. It was a shock to find that apparently with only one exception, I was the most ancient among the 500 plus Alumni present."

Will Kelley, VI, writing from Illinois in February, says: "Mrs. Kelley and I are just leaving for a two months' cruise to the Mediterranean countries on the Holland-American Line. We are still planning to come to the 55th class reunion." Joseph Gund, I, of Freeport, Ill., writes that he is still active in paving contracting and afraid to quit. Roger Wight, XIII, in Harwich Port, Mass., reports: "Had a good real estate business last year but it has kept me almost busier than I wanted to be and I had almost decided to take down my sign. However, inquiries continue to come in without much advertising and I'll probably carry on at a somewhat slower pace. My wife and I had planned on a trip South either this month (February) or next, but the Mrs. fell Sunday evening on the kitchen floor and my doctor thinks she has a fractured right leg and possibly her hip, so she is now in the Cape Cod Hospital and may have to be there for a number of weeks, so our trip is off indefinitely, but we both continue to look forward to the 55th anniversary of M.I.T. 1901 in 1956."

Robert Brown, XI, of Mineola, N.Y., says: "Nothing much to report. I retired from engineering some years ago. My hobby is photography the year around and gardening in the summer. A serious operation a few months ago has rather slowed me up for the time being, but I expect to be going strong by the time garden work begins in the spring. To keep me out of mischief I am treasurer of our church." Here endeth the lesson for this month. — THEODORE H. TAFT, *Secretary*, Box 124, East Jaffrey, N.H. WILLARD W. DOW, *Assistant Secretary*, 78 Elm Street, Cohasset, Mass.

• 1902 •

Death has taken a heavy toll from our Class since the last Notes. Philip C. Pearson died at Fair Lawn, N.J., on January 27, 1955, where he was serving as Rector of the Church of Atonement (Episcopal). Pearson was a member of Course V and followed chemistry for about two years when he became interested in the ministry and took up theological studies. He was for three years a student at the General Theological Seminary in New York City. On May 26, 1907, he was made a deacon and the following year he did graduate work at the Seminary and Columbia University. In the meantime he did practical work at St. Agnes Chapel, Trinity Parish and in 1908 was ordained priest. After four months' travel in England, Scotland, and Wales and a short period of practical work as one of the Curates of Old Trinity, he became in 1909 the Rector at Christ Church, Ridgewood, N.J. Then he was successively Rector of St. Michael's Church in Naugatuck, Conn., and of the Trinity Episcopal Church in New Castle, Pa. Later in his career he became Chenango County Missioner and Dean of the Third District Diocese of Central New York, making his residence in Norwich, N.Y. He was very successful in this assignment and greatly enjoyed his pastoral duties although the wide-spread field made his work somewhat strenuous. In 1951 he became Rector of the Church of Atonement in Fair Lawn which lessened his labors and brought him nearer his son and daughter and two grandchildren. His wife, Emma Scanlon Pearson, survives him. Pearson was a native of Newburyport.

A clipping from the *Berkshire Eagle*, Pittsfield, Mass., records the death of George H. French on February 13, 1955. He will perhaps be remembered by some as a member of the class football team and a tackle on the varsity team in the fall of 1900. He was a native of Pittsfield and had lived there most of his life. In 1915 he established the Berkshire Electric Company which later in 1920 became the present Electric Supply and Repair Company of which he was president until 1953 when his son, John K. French, became its head. French was very active in community affairs, attending the First Congregational Church and having membership in all the Masonic bodies including Melha Temple and the Berkshire Shrine. He is survived by his son, a daughter, Mrs. Stillman D. Covell of Fort Campbell, Ky., and five grandchildren. Mrs. French, the former Florence Murray, died in October, 1953.

Francis B. Galaher passed away in St. Petersburg, Fla., after a long illness on March 17, 1955. He had retired some years ago and made his home in Boxford, Mass. Previous to his retirement he had been chief mechanical engineer for the Hood Rubber Division of the B. F. Goodrich Company in Watertown. Earlier in his career he had been with the Stone and Webster Engineering Corporation, then becoming associated with the H. M. Hope Engineering Company of which he was vice-president. He leaves his wife, Charlotte Adams Galaher, and three sons, Edward W. and Abbott S. of North Andover, and Robert of Portland, Oregon, and a daughter, Mrs. Mary A. Buchan of Portland, Maine. The Class was represented at his funeral by Dan Patch.

Frederick H. Hunter, our former class secretary, died on March 31 after a brief illness. Fred was probably more generally known to other members of the Class than any other man. In student days he was active in the Architectural Society, the Hare and Hounds and Junior Track team. He was our class secretary in the Senior year which foreshadowed his 30 as alumni class secretary. It's a matter of class history how Hunter organized and welded the Class together during the early years after graduation and later in the various Tech gatherings and formal class reunions. He could always be counted as present on such occasions and he had a comprehensive knowledge of the whereabouts and activities of the men of 1902. He served as class representative on the Alumni Council from its founding till his death. Hunter was born in Newburyport and prepared for the Institute in the Natick and Newburyport High Schools. He was a member of Course IV and took the master's degree in 1903. After graduation he was employed by several firms and gained sufficient experience in estimating amounts and costs of material as to permit himself to set up as a quantity surveyor. In that capacity he was well known by architects and builders and was actively engaged in that business until within a month of his death. Fred was very fond of hiking in the White Mountains and his vacations and leisure time were usually spent that way.

At the Memorial Services held in the First Parish Church in West Roxbury on April 4, the Class was represented by Bourneuf, Greeley, Patch and Philbrick. A donation in the name of the Class was made to the Church Fund in lieu of flowers. Hunter leaves his wife, Helen Sewall Hunter, two daughters, Mrs. George E. Kimball (M.I.T. '36), Mrs. Robert L. Scott, a son, David, and 10 grandchildren. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

• 1905 •

These notes are being written at Par- ris Island where Mrs. Goldthwait and I are visiting daughter, Marjorie, whose husband is Hospital Man Chief in a Naval Detachment assigned to this Marine base. We're living on the base surrounded by military buildings and personnel and subject to military regulations, such as "10 miles per hour,"

which is difficult after driving on the New Jersey Turnpike and subsequent high speed roads.

Notice of the change of site for the 50th Reunion has been mailed to every '05 man. By the time these notes are ready, many, especially those from the Pacific Coast and Mid-west points will be enroute for the Belmont, West Harwich, Cape Cod, Mass. Registrations are coming in nicely, the score on April 11 being 70 with two months to go. The announcements with questionnaire endeavored to anticipate all questions. Any individual questions in regard to arrangements, reservations, and so forth, will be (many have been) answered at once.

Some interesting news items have been received as a result of the last circulation, especially from some of the co-eds, from whom we hear only very occasionally. Mrs. Edith Wheeler Ripley writes that as secretary of the Class of 1896, Smith College, she is already making preparations for the 60th reunion of her class. Mrs. Eliza Newkirk Rogers, now living in Philadelphia, is planning to attend the 55th reunion of her class at Wellesley, held at the same time as our 50th. She will, however, be present on Alumni Day at Cambridge. Mrs. Gretchen Howes Waldo, living in Boston, fears she would not stack up as "one of the boys." Jim Newlands writes from Hollywood, Fla., his regrets at not being able to attend the reunion on account of surgery soon to be done on his eyes. John Meggison sends his regrets from Galena, Kans., together with photographs of himself and his family, including Mrs. Meggison, their daughter and two grandsons. Those who have not already done this are urged to send or bring photographs, snap-shots, and so forth, for our reunion art gallery.

Edward C. Smith, 13850 Lakewood Boulevard, Lakewood, Cleveland, Ohio, will be unable to attend the 50th, as Mrs. Smith will be incapacitated several months with a broken ankle. Their son, Edward F. and wife have just presented them with their first grandchild. A. H. Kelling is another who will be prevented from attending on account of his wife's illness. H. A. Kirkwood, West New Brighton, N.Y., asks if we recall a professor named Linus Founce. (Who doesn't?) Kirkwood has retired from the engineering field, is in good health and "keeps going."

On April 13 we journeyed to Summer- ville, S.C., to see if I could locate Ray White, whom I had previously reported as almost totally incapacitated for the last two or three years. I found Ray in bed. Although he could not express himself orally, I thought (and Mrs. White was sure) that he understood a good deal of the news of his classmates, and particularly his coursemates, which I was able to give him. His eyes lit up and he indicated by a nod when I spoke of Chesterman, Lindsly, Caine, fellows whom he knew best at Alden Park Manor, Philadelphia. Mrs. White was very optimistic as to his recovery, stating that there were recent signs of improvement. They are very comfortably situated in a beautiful town, which in the pre-revolutionary days was the summer residence section of the rich planters of rice, cot-

ton and indigo along the Coastal areas of the Carolinas.

It is my unpleasant duty to record the death of Walter L. Whittemore, who passed away at Houston, Texas, on March 20. He had been in poor health for several years, having retired to live with his daughter in Houston. Walter served 18 years with the Bureau of Reclamation and 22 years with the U.S. Engineers in Chattanooga and Memphis, Tenn., Zanesville, Ohio, Little Rock, Ark., and Chicago, Ill., areas. He was a past master of Story Lodge Number 4, F. and A.M. of Provo, Utah. Besides his widow, he left two daughters and a son. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass. GILBERT S. TOWER, *Assistant Secretary*, 35 North Main Street, Cohasset, Mass.

• 1906 •

It is now April 17 and the notes are due for the June Review. The situation in this respect is similar to that of the last few months in that class items are confined to the routine address changes from the Alumni Office which also includes several deaths. As we have noted before the number of address changes is above normal due to the preparation of the new Alumni Register and also on account of the Florida migrants who are returning to their northern haunts. In this number are included Fred Batchelder of Hampton, N.H.; Abe Sherman of Rochester, N.Y.; Frank Benham returned early in March just in time to experience some of the worst weather we have had this winter. John G. Souther, II, reports a move from Alameda, Calif., to Jamaica Plain, Mass. Our record shows a corresponding east to west move by him in 1943. Frederick B. Guest from Tuckahoe, N.Y., to Norwalk, Conn., with the Nuroco Woodwork, Inc., on Muller Avenue.

A telephone call to Class Agent Sherman Chase resulted in the following information which, we know, will be of interest: Sherman had just received the report from the Alumni Fund Director which showed a total of \$343,000 subscribed to date this year, about \$109,000 more than a year ago. The Class record shows 36 per cent of the Class list contributing the amount for the year totaling about \$5,000 at an average subscription of \$75 each. Compared with the other classes 1906 stands about twenty-eighth in the amount contributed, seventeenth in the percentage of contributions and tenth in the average contribution. I believe this is our best showing to date but readers are reminded that our contributions this year, if so designated, will be credited to our 50-year gift and, furthermore, every dollar we contribute will be matched by the anonymous donor to underwrite the Karl Compton Memorial Laboratory. All gifts received up to June 30 of this year will be included in the total and even though you do not read this until early in June, please, if possible, supplement any contribution by an additional gift which, if sent immediately will still count on this year's total. Sherman advised that he and Mrs. Chase are starting on their European trip on May 6, returning in July. This has been referred to in a previous issue and he is to

present a paper before the Water Works Engineers in England, Sherman being an honorary member of that society, among the other honorary members being the Duke of Edinburgh. This paper is to be presented in May and in July he will present a paper before the International Water Congress in England relative to water rates, which is based upon data which has been forwarded to him from about a dozen foreign countries.

Following are the obituaries for this issue: Samuel S. Dargan, IX, died November 30, 1954, at Bloomington, Ind. Our card record indicates but one address for him which was originally received in 1938. Aside from that no other information is available. Paul N. Critchlow, I, died January 2, 1955 at Pittsburgh, Pa. Our ten-year book shows he spent the years 1906-1910 with the American Bridge Company. In 1910 he associated with the Patent Law firm of Christy and Christy and had been admitted to the bar. He was married in 1911 and reported two children in 1916. Since 1933, he has been listed as a member of a law concern originally Brown and Critchlow which later became Brown, Critchlow, Flick and Peckham with offices in the First National Bank Building in Pittsburgh. This address was the last received previous to the report of his death.

Park V. Perkins, I, died February 18, 1955, at Toledo, Ohio. Your Secretary had occasion to refer to Perkins about three years ago in connection with the Fiftieth Anniversary of the establishment of Theta Chi Fraternity at the Institute. Perkins was a Norwich man and was with 1906 about a year. During that time he was instrumental in starting Beta Chapter of Theta Chi at Tech. Our card record shows he was in the brokerage business in New York until 1913, with the American Carrara Marble Company in Carrara, Nev., until 1919. In 1923 he was in Los Angeles, Calif., and in 1929 he moved to Toledo, Ohio, where he resided at the time of his death. He had attended no Class Reunions but he was present at the Fiftieth Anniversary Dinner of the founding of Beta Chapter which was held in Boston three years ago. — JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

• 1907 •

On March 21 I received a letter from Hermann Mahr written on March 14 on board the S.S. *Independence*, "approaching Athens, Greece." He and his wife had been away from their home in Washington, D.C., since February 11, and were on a Mediterranean cruise. They expected to be back in the United States by Easter time. William G. Perry, a member of the Boston architectural firm of Perry, Shaw, and Hepburn, was one of four new members named by President Eisenhower last February to the Commission on Fine Arts. His duties will include advising the Government regarding the location of statues and monuments and the construction of buildings in the nation's capital. Bill has done fine work in the architectural field ever since he

completed his early training at Harvard '05, M.I.T. '07, and at l'Ecole des Beaux Arts in Paris in 1913, his outstanding accomplishment possibly being the restoration of Williamsburg, Va. He is an associate of the National Academy of Design, chairman of the National Advisory Committee of Historic American Buildings Survey, a fellow of the American Institute of Architects and the American Civic Association, and a trustee of Colonial Williamsburg in Virginia. He is a member of the Brookline (Mass.) Planning Board, and of several clubs in Boston and New York, and a past president of the Episcopalian Club of Massachusetts. A new address for Edward G. Lee is Route 3, Box 50A, Santa Fe, New Mexico. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1909 •

We received a letter from Maurice R. Scharff from which we quote the following: "I recently gave a letter of introduction to A. B. Morrow to a friend who went to Caracas. My friend has just returned from Venezuela and reports that he had lunch with A. B., who is in excellent health and spirits and treated him to one of the largest steaks he had ever eaten. No doubt you have received notice of the change of address of B. E. Hutchinson to 1580 National Bank Building, Detroit 26, Mich. In reply to my inquiry as to whether this meant that Hutch was retiring from active business, I had a letter saying, 'Right you are! I'm fully retired with nothing to do and the rest of my life to do it in. I've opened up this 2 by 4 office to have some place to go while they do the dusting around the house. It's a great life and I love it!'" — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass.

• 1910 •

It is with deep regret that I have to announce the death of Henry R. Elwell on January 27, 1954, in Brattleboro, Vt., and John M. Fitzwater on March 21, 1955, in Knoxville, Tenn. This information was received from the records of the M.I.T. Alumni Register.

Kenneth Armstrong who has retired and is living in Opa-Locka, Fla., writes that he now has his seventh grandchild. Ken is planning director of the City of Opa-Locka, is secretary-treasurer of the local Optimist Club and secretary of the South Florida Alumni Association. He is also planning to attend our 45th Reunion in June. Abbott Allen paid me a visit a short time ago. He had just finished a consulting job for the Navy in Rhode Island. The job demanded that he live on the post and he had a very fine time living at the Bachelor Officers' Quarters. He said the only trouble was that the younger officers took him for a retired admiral. HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

• 1911 •

Every once in a while something occurs that reminds us how quickly time flies. For example, at the Alumni Council

meeting recently it was brought out that 1961 will be the 100th anniversary of the granting of the charter to the Massachusetts Institute of Technology. The centennial of M.I.T. receiving its charter will be coincidental with the semi-centennial (or golden anniversary) of our graduation! In answer to a question at the Council meeting as to how this anniversary will be celebrated, it was agreed that "certainly the Alumni Association will be invited to play a significant part" and, fellow Eleveners, we will be the Fifty-Year Class!

Returning to the present, it is indeed a sad duty to report the death of another classmate: Arthur Eugene Coupal, II, passed on in late February. Born in Boston, Art Coupal was educated in the Boston public schools and was in our Class at M.I.T., receiving his degree later from Lowell Institute. Successively he had worked for National Refrigeration Company, Boston; Barbour Stockwell Company, Cambridge; Watertown Arsenal and Holtzer-Cabot Company, Boston. Some years ago he joined forces with Bethlehem Steel Company at the Fore River plant in Quincy and worked there for more than a decade. In early February he suffered a heart attack, caused by a hypertensive condition with congestive failure. He died a week later. He was a member of the American Society of Tool Engineers and the American Society of Mechanical Engineers. We have expressed our deep sympathy to his widow, the former Grace Lincoln McKenney, who survives him at their home at 382 Adams Street in North Abington, Mass. Art was a loyal and active Elevenner and we will particularly miss him at the annual "Seven Come '11" November 7 class dinners, where he was a regular attendant.

In the March Class Notes we told of a novice in the field of photography — Harry Tisdale, X, now living with Grace, his charming wife, in Waterford, Conn. Recently we had definite proof that Harry has arrived as a candid camera operator — prints of half a dozen fine pictures taken at this year's "Welcome to Dennie" class luncheon in Big Town. Wish we could reproduce one or more of them here — they're that good. Congratulations, Harry! From Seattle, Wash., where he has "retired" after years of valiant service as head of the Sanitary Engineering Department of the University of Illinois at Urbana, Harold Babbitt, XI, sent a note along with his regular Alumni Fund contribution, which read: "I've been wandering around so much lately that your letters don't catch up with me promptly. This winter I spent about four months in Mexico. I'm pulling up stakes now for a two-year tour of duty with the Foreign Operations Administration in Brazil and so until further notice you'd better continue to address me at 201 Civil Engineering Hall, University of Illinois, Urbana, Ill." You just can't keep a good man down! At a recent all-day District Conference embracing 28 Rotary clubs in this area and held at Vaughn Monroe's Meadows in Framingham, I had a nice renewal of acquaintance with Emmons and Reta Whitcomb. Emmons, XI, is a member of the Wellesley Rotary Club

(hosts for the event) and Reta was on the ladies' committee. There was a record attendance of 803, but no other Elevensers.

Nat Seeley, II, sending along his Fund contribution, wrote: "Grandma and I returned home from Florida in mid-March after a month's trip (that she said we could not afford), but here's a check that probably will not bounce."—George Cowee, III, retired and living on South Merritt Island, Fla., said simply: "Good luck and best regards!"—Continuing to show sagacity and solicitude for the welfare of youth at Northeastern University, President Carl Ell, XI, recently appointed Herb Gallagher, for years a successful athletic coach at N. U., to the directorship of student activities, athletics, health and physical education in a consolidation move. You should hear Northeastern graduates sing the praises of "our Carl!"

These notes should reach you on the eve of Alumni Day 1955—during the day at M.I.T. and in the evening at Hotel Statler, Boston, Monday, June 13. It's not too late to plan to attend, and the morning conference at the Institute, featuring outstanding speakers in a discussion of "Uses and Economics of the Peaceful Atom," will get things off to a fine start. The luncheon in the Great Court is a "must" for every loyal Alumnus present. This year, President James R. Killian, Jr.'26, will report on "M.I.T. Enters the Reactor Age." The annual banquet concludes activities that evening at The Statler. Hope to see many of you there!

That's it, mates, except to remind the procrastinators that subscriptions to this year's Alumni Fund *must* reach the Fund Office at M.I.T. by June 30. We're shooting for our biggest year, classmates, hoping to pass the \$10,000 mark!—ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Framingham, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

Dolph H. Martin writes from Los Angeles (where he is known as Doc Dolph H. Martin of 6114 Selma Avenue, Hollywood) that his radio program, "Youth on Parade," which emanated from Boston and was transmitted coast to coast via CBS for several years, is now being recast as a television show which will eventually emanate from Hollywood. Any youngsters in their teens who have the talent and desire to participate are now being screened, with the co-operation of many of the youth-serving agencies who feel the time is right and the need great for this type of program. He hopes to meet the challenge again as he did in the war years.

Walter H. Taylor, who is resident chemist of the Sprague Electric Company, North Adams, Mass., writes that they have been living in Williamstown since 1950 and like it more all the time. This represents quite a change from living in China where they had a similar house with a wide reaching view of the sea rather than over the Berkshire Hills. As Taylor has spent many years in the Orient, he is afraid few of us remember him.

Jerome A. Appelquest, VI, writes that since his retirement from the New York Telephone Company a little over a year ago he and his wife have been much occupied in selling their New Jersey home and moving down to Cutchogue, New York, in the Peconic Bay Region of Long Island where they have spent vacations for many years. The new house was left partially undone so the next two years will be filled with finishing it up. Jerome states that this won't interfere with swimming, fishing, crabbing or digging clams during the summer, however. The welcome sign is out to anybody traveling that vicinity.

Henry A. Johnson writes from Memphis, Tenn., that he retired in 1954 from the U.S. Public Health Service where he had been since 1927. He was engaged in laboratory and field work on "insect-carried diseases" and also in intestinal protozoa of humans. He published many papers on these subjects, and until recently was on Foreign Assignments with Army (China and India). His family consists of his wife and three daughters, two of whom are married.

Max C. Mason retired to Hillsboro, N.H., last year and reports that he and his wife and their high-school-age daughter are living on the side hill in a very ancient but comfortable house that looks across the Contoocook River toward Hillsboro Bridge. The cold of mid-winter does not diminish their enjoyment. Max originally came from New Hampshire and his family became very fond of it during many vacations that they spent in Hancock only a few miles away. Finding the old house was a realization of a plan they have had for many years. In spite of the advice of many friends that a warmer climate would be more comfortable, Max has become a jack-of-all-trades and handyman around the farm. He states that after 40-odd years of keeping regular office hours, he has to keep right on scheduling his time to get the most out of retirement. A colored photograph which Max sent shows his home in the middle of autumn foliage.—FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LESTER WHITE, *Assistant Secretary*, 4520 Lewiston Road, Niagara Falls, N.Y.

• 1913 •

The response to our post card dated February 21 is gratifying. Still many of you silent classmates have failed to reply to our appeal for news . . . even the ground hog comes out in the open on "Candlemas Day." Several of our pals have given us some news, also that dollar to ease Joe MacKinnon's desire for a large bank balance of 1913. Of course, all of you are interested in any report of our President Pop or Bill Ready, who is still our top man, and maybe our most envied classmate. Pop and Neva have been sojourning in Florida this winter. They were residing at the Delray Beach Hotel, Delray Beach, Fla. Unfortunately, Bill fell and fractured a leg. After treatment at the Palm Beach Hospital, he traveled to Boston for an operation and resetting of the break at the Phillips House, Boston. A phone call by your Correspondent revealed that Pop personally related that

he was on the mend and after a brief rest he would be back in his usual good health. Our best wishes, Bill, for speedy recovery. We need your guidance.

No other than Bill Mattson has gone soft and cannot take our severe winters. He spent several weeks in that sunny atmosphere and ever rainless days (California papers please copy) in Florida. As an outstanding Yankee, Bill honored the resort of Fort Lauderdale with his presence. He has just returned, tanned and full of his usual pep. We wonder how the City of Newton carried on while the Vice-chairman of the Newton Aldermen, and Chairman of Claims and Rules was glamouring. Bill also spent one day with the Readys. Janet Mattson, our ambassadress of good will, also left our shore. She spent her time, while Daddy was away, in southern waters. As usual she enjoyed a Caribbean cruise and added to her long list of admirers, no doubt. Who has heard of John L. Kerr, lately? The General Electric Company advises us "that the addressee is no longer here" and "please discontinue future mailings." Victor Mayer writes: "Have designed and built many run of the mill structures—but now I am a 'glamour boy,' just because I am building the new Kansas City Athletic Stadium. Even the elevator men in my building, who never noticed me before, greet me most effusively since they learned about this stadium job." Thanks for the class dues.

Alex Besosa returns to our live section of our Class (long time no see). He even gives us some news and we quote: "Please accept my apology for this belated answer to your pleasant circular letter received a long time ago. Your postal of last February 21 made my conscience yell at me, so I am obeying it and giving myself the pleasure of writing you. The circular letter referred to is the one in which the first paragraph begins with, 'Are you standing behind the Iron Curtain; the First or Fifth Amendment?' My answer is, No, as I would not change the Heavenly Curtain (dear U.S.A.) behind which you and I are standing, for any other curtain on earth. I think it would be better to call that 'Iron Curtain' 'The Torture Curtain.' There is nothing of any importance that I can say about my life. It is just the commonplace life of an average individual. Nature many years ago deprived me of such enjoyments as attending class reunions and other festivities by making me severely hard of hearing. This also has affected my earnings, which are moderate. I am happy in sending you herein three dollars as class dues instead of one so as to make up for my having been so dilatory in answering your circular letter. Also, as an atonement for my sin for which I know you will grant me absolution and thus make my entry into Heaven easier, when the time comes to make my application to locate there. With my highest esteem and sincere feelings of friendship."

Your humble Correspondent has returned to the Town of Canton where he has held most of the important civic offices as chairman of the Board of Selectmen, Town Clerk, and member of the School Committee. Now, he has again entered the local political arena as a

member of the Industrial Development Commission and a member of the Republican Town Committee. As a means of livelihood, he is on the staff of the Boston Lying-In Hospital.

With the greatest regret and full of sincere sympathy for his family, we have learned that Philip S. Barnes, X, died on October 19, 1954. We shall miss him as will his concern, Pfaudler Company, Rochester, N.Y.

More news in the July issue. Will we see you Alumni Day at the Institute? — FREDERICK D. MURDOCK, *Secretary*, 88 Rumstick Road, Barrington, R.I. GEORGE P. CAPEN, *Assistant Secretary*, 623 Chapman Street, Canton, Mass.

• 1914 •

It is sad to note the passing of another one of our stalwart classmates, Stirling H. Harper, whom many of us were pleased to see at our reunion last year. He died of a heart attack on March 9 at the Oak Ridge, Tenn., hospital. He and Mrs. Harper had made their home in Oak Ridge for the past 10 years or more where he was employed by the Maxon Construction Company. He was active in many phases of community life and a member of the Society of American Military Engineers. The Class extends its sympathies to Mrs. Harper and other members of his family.

There are some members of our Class who are frequently brought into public attention by their actions and appreciative colleagues. Ray Dinsmore is one of these individuals. In his new book *Industrial Voyage*, Paul W. Litchfield'96, Chairman of the Board of Goodyear Tire and Rubber Company, has the following to say of Ray:

"It was perhaps natural that studious, pipe smoking R. P. Dinsmore, our chief chemist, should head up the vital scientific end of the synthetic drive. He had come to us from the Massachusetts Tech campus in 1914, before the industry had advanced very far from the rule-of-thumb stage, had seen and been part of all the developments since. With an unusual knack of seeing practical application for the findings of the laboratory, Dr. Dinsmore had administrative gifts of high level, which fitted into his new assignment. For he found himself directing the work of a large group of scientists having widely different backgrounds and temperaments. He analyzed his men, tried to place each one where his training would be most useful, and kept the team working smoothly. They arrived at a practical formula in surprisingly short time. Scientific honors and honorary degrees have come to him since — and naturally a place as vice-president of research on our expanding 'management team.'"

Gossip has it that Boggs Morrison is spending most of his time at the Arthur D. Little office in the Graybar Building in New York. Does this indicate a possible permanent change of address? Lin Faunce passes along the information that Ralph Salisbury and his wife Peggy spent several days with him on their return from three years in North Africa. Ralph was concerned with the completion of the air fields which received so much attention in the news not so long ago.

The Salisburys took full advantage of their opportunities and traveled from Saudi Arabia to Greece, Italy, Spain, France, Germany, and Great Britain. By now they are re-established in their home in Grass Valley, Calif. This reminds us that our own wandering Secretary, Harold Richmond, should be back in the U.S.A. by the time you read these notes, after an extended trip to South Africa and various European points. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N.J.

• 1915 •

Classmates — in only a few days about 100 of us will be gathering at Coonamesett Inn, Falmouth, Mass. (on Cape Cod), for our Fortieth Reunion. We're not getting any younger! If you haven't already planned to be there, how about a last minute decision? Come on along, no preparation necessary. There'll be a grand welcome and reservation for you when you arrive. Just try to be there!

From globe-trotting Herb and Alice Anderson in Yucatan, Mexico: "Just before we left home I received your letter covering our Fortieth Reunion plans for June. As soon as we return I shall contact the men you have listed, hoping they will want to celebrate this very important affair with us in Cambridge and on the Cape. We now have quite thoroughly refreshed our memories of the fabulous Mayan race and on Wednesday fly to Mexico City in time to spend the seventh Annual Fiesta of the M.I.T. Club of Mexico. The days following we spend between Taxco and Cuernavaca and then a real stay at Acapulco. I enjoyed the New York dinner meeting which was so completely organized and followed up by Hank Marion and Larry Landers. We have no greater class loyalty than theirs."

These area key men certainly have been on the job. I've had many letters and reports from them and they are stirring up a lot of interest in our widely scattered classmates.

From 1354 Rhoda Drive, La Jolla, Calif., Ken King writes: "Now that the 1954 income tax has been completed I will start getting in touch with the men on the list you sent me. As much as I would like to get back to the Reunion myself, I doubt very much if I will be able to make it this year. It's early to make definite plans and you will hear from me later on that point. A couple of weeks ago we had a nice weekend at the home of Irving McDaniels'17, attended by Len Noyse, Walt Rivers, Henry Babcock'12, and Lew Brown'19. Parm Sabin was unable to attend but is still living at Pasadena."

What is there about the Mayan jungles and natives that attracts our Fifteneers? The Seymour, Conn., *Evening Sentinel* gives a colorful story of Alan Dana's recent trip. Maybe Herb Anderson and Alan could plan a little reunion down there: "Alan S. Dana, chief engineer of the Kerite Company, has returned from an unusual trip off the beaten path. For three weeks he visited various ruined temples left by the Mayans 1,000 to 1,700 years ago. They were in the jungles of

Yucatan and Honduras, in areas where the howling monkeys could be heard, where numerous iguanas were scared out of their sleep, and where the woods were almost impenetrable. To reach three of these it was necessary to charter private planes as no auto roads or commercial plane flights exist. Headquarters were made at Merida, Yucatan, from which one flight of 160 miles direct east was made to the coast where Cortez was in 1519, where the ruins of the city of Tulum lie. Another flight, 280 miles south to Palenga in the rain forest, and a third flight from Tegucigalpa, Honduras, 150 miles made in a single motor two-passenger plane, over mountains 9,000 feet high to Copan, one of the very oldest of the Maya cities. In some of these places, Mr. Dana said, there were no hard surface landing strips, and landing had to be made in fields or on rough dirt roads. Other Mayan sites visited included Chicken-Itza, Kabah, Uxmal, Sayil, Labna, Ake and Xlapnak. The natives were very hospitable, permitting Mr. Dana to call on them, enter their thatched roof mud huts, and see their mode of living and cooking. A three-hour trip over an impossible road took Mr. Dana to Mayapan, where the Carnegie Institution of Washington is excavating. It was carnival time in Yucatan and the parades and dances were witnessed through the kind auspices of a Mayan whom Mr. Dana had met the year before. Schools where Mayan and Spanish only are spoken were visited, and selected groups of youngsters went on exhibition with recitations, songs and pantomime."

On our way to Sarasota, Fla., on March 13, Fran and I met Sam Berke on the train. He was going to his fishing camp at Weelaika, Fla. Sam looked in good condition to go after some of those big fighting fish down there. The annual reports of Jack Dalton's two companies, Mutual Boiler and Machinery Insurance Company and Boston Manufacturers Mutual Fire Insurance Company are good looking, well prepared and interesting booklets. The outstanding success of these two large and well known insurance companies reflect Jack's able and sound leadership and ability as President. Congratulations, Jack!

On April 14, at the M.I.T. Faculty Club, 28 classmates and guests met for another splendid dinner and enjoyable evening. Present were: Roland Baldrey, Bill Brackett, Jack Dalton, Sam Eisenberg, Newell Foster, Loring Hayward, John Homan, Weare Howlett, Clive Lacy, H. W. Lamson, Larry Landers, Azel Mack and guest Jim Hoey, President of 1943 Class, Arch Morrison, Pete Munn, George Murphy'32, Wally Pike, George Rooney, Chet Runels, Al Sampson, Henry Sheils and two guests, William J. Sheils and Herbert J. Albee, Jac Sindler'17, Easty Weaver, Carl Wood, Max Woythaler and guest L. O. Clements. After a convivial cocktail hour and an enjoyable dinner, we settled to the important business of reunion plans. Max and Weare brought us up to date on their recent visit to Coonamesett. Everything is all set and we'll try to room the men as well as we can, but we'll all be

there close together. Frank Murphy, Sam Eisenberg and George Rooney will greet all classmates Friday noon, June 10, in Room 1-133 at M.I.T. and provide transportation to the Cape. Barbara Thomas will be there, too, to hand out identification badges. Al Sampson invited all ladies and guests of the Class to the Monday afternoon Cocktail Party that he and Barbara are putting on. Jack Dalton reviewed the progress on the Compton Memorial and congratulated Clive Lacy and Max on the splendid work they've done in getting our Class up at the top with Alumni Fund contributions for this most worthy service.

Henry Sheils and I will be at Coonamessett Friday morning to greet Classmates arriving early and it will be a pleasure to see you there. Weare and Katherine Howlett will be on the West Coast for the marriage of their daughter Joan in Pasadena on April 30th. Weare hopes to stir up some of our men out there to come to the Reunion. What greater interest than Bur Swain! He couldn't make the Boston Class Dinner from New York but sent a check and wrote, "So sorry, but I'll drool over the cheese and be sad when I think of good fellows gathering at the table." Many thanks, Bur.

It's very sad to recall the passing of our Classmates: Marion W. Hulse died December 29, 1954; Wallace S. Thomas, January 1, 1955, in Bethesda, Md.; Charles W. Noyes, March 31, 1955, in Havertown, Pa. We have written their families with the sympathy of the Class to them all.

I'm looking forward to the pleasure of seeing many of you at our Reunion. — AZEL W. MACK, *Secretary*, 40 St. Paul Street, Brookline 46, Mass.

• 1916 •

Early responses to the reunion notice indicate that we are going to have a nice group at the Chatham Bars Inn in Chatham on Cape Cod on June 14 and 15. We are happy to report that the early returns show that Joe Barker and his wife, Steve Brophy and his wife, Hy Ullian and Mrs. Ullian, Maurice Holland and his wife, Dina Coleman, Bill Drumme, John Woods, George Petit, Tom Jewett, Jack Burbank, and of course your Secretary and Assistant Secretary, will be there. Phil Baker, Jack Freeman, Willard Crandall, Ed Peters and Francis Stern are hoping to be there and will let us know later. There are still many more to be heard from, and we're betting that when the final tally is in we'll have a fine group signed up for the two days on the Cape.

On some of the cards received from those who can't make it this year, the sender pens a brief comment and we thought you might be interested in reading them. For instance, Ted Jewett wrote: "Sorry I can't be with you. All good wishes." Aime Cousineau: "My best wishes for the success of this reunion." Maynard Guss: "Sorry, California too far from the Cape." Mark Lemmon: "Send my regrets regretfully but wish all a grand time." Earl Edwards: "Sorry, cannot make it. Hope to make the next meeting." Tom Little: "I expect to be abroad

on a vacation trip at the time of the reunion." Lewis Dow: "Sorry, too busy. Best regards to all the boys." Bob Wilson: "Sorry, had hoped to come." Charlie McCarthy: "Sorry I can't make it. All best wishes for a happy reunion." Walter Littlefield: "Having a 40th elsewhere." George Bousquet: "Enjoyed the pictures. After 40 years some are still recognizable. Some day I hope to join you all." Arvin Page: "It looks very inviting but I will gamble on being on hand next year." Wes Blank: "In June I will be 60 and am retiring on a 157-acre estate in Charlottesville, Va., with a panorama view of the Blue Ridge Mountains. Regards to others." Steve Berke: "Sorry I will not be with you this year but am leaving for Europe and will be gone to July 1."

Ed Graustein: "Possibly the 40th, I hope. Unless a miracle happens and I catch up with things." Jack Hickey: "Sorry, will be in Washington for my daughter's graduation the week of the reunion." Howard Hands: "I'll try hard next year, Ralph." Willard Brown: "Sorry, I sail for Europe May 20 on S.S. *Nieuw Amsterdam* to attend International Commission on Illumination in Zurich in June. Mrs. Brown accompanies me. I happen to be vice-president of the U.S. National Committee of this organization." Frank Hastie: "I am looking forward to attending the 40th next year." George Spooner: "Distance too great. Sorry." Bob Hart: "Happy Reunion." Kem Dean: "In case I am near Boston at that time I shall contact you." Joe Meigs: "Have retired and now live in Sharon, Conn." Ed Williams: "Reason — Illness." Frank Ross: "I've been laid up. Doc says no travel." Very sorry about Ed and Frank and hope that they will be in the best of health again before too long. From the number of classmates who are going to be in Europe around reunion time, perhaps in another year we might consider holding the reunion in one of the larger cities in Europe. We're only kidding . . . we hope!

Cy Guething, who is one of our more faithful reunion attendees, recently sent us a card from Honolulu where he evidently was enjoying himself although at the time that he wrote it was "raining like hell out here — seven inches in 24 hours, and no good weather in sight." Don Webster writes: "My sister has a cottage in Harwich, just a couple of miles or so from the Inn. If I can find the time and energy, and can persuade my wife, we may go down to the Cape for a long weekend at the cottage. In such case I will show up at the Reunion." Irv McDaniel planned to be in the East late in May or early in June, and while he thought he would be on his way back to California at least a couple of weeks before the reunion dates there is always the possibility that his plans will change enough to permit him to be at the reunion. George Hale noted on his card that he has retired from his position with Shawinigan Water and Power Company in Montreal, Canada, and is now residing at Baywood Avenue at Crest Road, Ross, Calif. So, all in all, the early returns point to a fine reunion, and if you aren't going to be with us this year, make your mind up right now that you've just got to be with us for the 40th.

We had the following bit of news from Allen Pettee: "Wish I could think of a bit of publishable news. As the woman surrounded by 21 of her small children said, 'Nothing ever happens to me.'" We have asked Allen if he could follow up by merely explaining the 21 children that he talks about. That should make news. Now, in fact, we have heard further from Al and while he does not speak precisely on the subject mentioned above, he has come across nicely just as one would expect from a vice-president of General Cable Corporation. He says: "Your Department of Amplification has asked for further details concerning my earlier report. Obviously the details in such a case are not important. It's the close approach to an infinite population that obscures the outward view. I sometimes can hardly see beyond the closely packed figures involved in staff guidance of General Cable's Standards, Quality Control, and Scrap programs, which is pretty much what I have been doing for some time. I was greatly pleased recently to meet Hank Smith, who was an electrochemist in our Class and is now standards engineer for Underwriters' Laboratories. He lives in the next town, and it seems that our wives had known each other for some time. It all got unraveled at a lecture one night, which illustrates one of the great advantages of continued adult education. It turned out too that we had been corresponding business-wise for years. We since have met across the card table, so the class association has been unexpectedly fruitful."

A recent news clipping brought us the information that Ray Cushman has been elected as cashier of the Barnett National Bank in Jacksonville, Fla. "Mr. Cushman has been with the Barnett since 1919 except for leaves of absence for military service. An Alumnus of Massachusetts Institute of Technology, he served as an officer in both World Wars. Mr. Cushman has been both a student and instructor in the local activities of the American Institute of Banking." Congratulations, Ray, and best of luck in your new responsibility.

Under a major heading of "Shortage of Scientists Seen Serious Threat" and a sub-heading of "Youthful Pre-Occupation with Television and Comic Books Seen Contributing Factor," our eye was drawn to a news account of an address presented by Bob Wilson to the 127th national meeting of the American Chemical Society recently in Cincinnati. Since it is the type of message which has some application to our own grandchildren and perhaps in some cases our children, we would like to quote part of the article. "Dr. Wilson asserted that television 'has made us a nation of spectators instead of participants,' and he added: 'The bright young boy who used to play with a home-made crystal radio or a chemical kit is now twirling the knobs on a T.V. set, watching terrible programs that distract him from constructive activities. . . . Instead of reading really educational magazines for boys . . . he is attracted by comic books and lurid science fiction.' Saying that inadequacies in our educational system, especially at the secondary level, have played a role in

bringing about a shortage of technically trained people, Wilson declared that one example of 'waste' in the school system is 'the failure to encourage and speed along the really superior minds, either in science or other fields.' He declared that 'in my day a bright boy frequently skipped two or three grades. He was stimulated by association with his intellectual equals. Freezing him in his age group tends to deaden his interest by holding him back to the learning pace of the dullards.'

"Today's public school systems are too often built around the mythical average student. Skipping grades is either discouraged or actually prohibited, with the adverse effects on the nation's most valuable raw material, our potential leaders in all fields of knowledge.' Among other "threats" to the future of applied research—in addition to the "shortage" of trained manpower—Wilson listed: (1) Rapid increase in research costs. (2) Government 'Competition' with industry in applied research in fields where 'private industry is able and willing to carry out adequate research at its own expense.' (3) The 'danger of socialism. This trend seems to be arrested just now, but I would not say that the pendulum has swung very far in the other direction.' (4) 'Waste' of technical manpower by the military forces—I'm sorry to say that the armed services have seldom used the best judgment in their handling of scientists and students of science . . . selective service should really be selective, making sure that men are assigned to work that will utilize their abilities most effectively in the national interest."

Again, we have the unhappy duty of reporting the passing of fellow classmates. We received word from his daughter that Charles Chandler died last October. The Alumni Office notified us of the death of Roswell Rennie on March 3, 1955. We know you join with us in sorrow for their passing, and we will convey the sympathy of the Class to their loved ones.

Again, our best wishes to all for continued good health and happiness.—RALPH A. FLETCHER, *Secretary*, P.O. Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Laboratories, Inc., 463 West Street, New York, N.Y.

• 1917 •

Dix Proctor returned from his cruise recently, and on his 60th birthday read my Class Notes reminder. Dix replied, "... the cruise is ended . . . and it was a very delightful one. We made 12 ports of call through the Virgin, Windward and Leeward Islands into Georgetown, British Guiana. Then we had the good fortune to have an added port, namely Santiago de Cuba, where we stayed a week loading sugar, and then had the pleasure of being delivered to Brooklyn rather than St. Johns, Canada, as originally scheduled. If you have a chance to go to Cuba and have a choice of Havana or Santiago, by all means take the latter. The country is prettier and the gambling was to open up the day we left. If you are looking for a spot to retire to, and like sailing, then don't look

anywhere, but just go to Grenada. When do we leave?"

Ham Wood is still in the insurance business as a vice-president of Kinkade and Company in Boston. He now has four grandchildren. Dexter Tutein has retired and says he is a bridge addict. He gets down to a South Carolina plantation in the early spring and late fall and to Nantucket in the summer, where Mrs. Tutein owns and operates "The Woodbox" from April until November. This is a small inn, the oldest part built in 1709. His daughter, Sunny, is an unmarried "artist," and spends a lot of time in Nantucket. Dexter, Jr., is just out of the army after two years, the second of which he enjoyed in Munich, Germany. He made his division's ski and tennis teams and traveled through most of Free Europe. He now hopes to complete his college education. Warren Tapley writes, "We have partially retired to Cape Cod and are living year round at West Falmouth. I am continuing in a small way with business and go uptown twice a week, usually. Everyone in good health—and I'm still young in the early sixties."

John Dickson recently joined the staff of the Southern Regional Research Laboratory at New Orleans. He will serve as a part-time consultant on the laboratory's cotton research program.

Ray Ramsey writes: "In 1945 I severed my connections with the electric utility field to become a member of Kenneth A. McIntyre Associates, Management Consultants, Cleveland, Ohio. As a matter of fact, all of my clients were electric utilities. In 1950 I accepted a position as director of Industrial Relations with the Public Service Company of Indiana. In 1951 the company moved into its new General Headquarters at Plainfield, Indiana, which is 14 miles west of Indianapolis. At the same time I built a contemporary home in Plainfield and spend most of my leisure hours on a so-called five-year program covering yard improvements. I have been active in the M.I.T. Club of Indiana and, in fact, am president of the Club this year."

From Charlie Judge: "I have been wondering what there was in my uneventful life that could be of interest to those who read *The Review*. Nothing ever happens to me. I came to Attleboro 32 years ago, associated with the American Reinforced Paper Company, in charge of production and personnel. The company has had a terrific growth and expansion, now having three plants in the States, one in England, one in Australia, and one in New Zealand. The Company is now known as American Siskraft Corporation. I remained in charge of production until 1941. After five and a quarter years of active duty with the Navy, I returned to be appointed to the position of vice-president in charge of procurement. One of the most interesting facets of this job is the liaison work with the Pulp and Paper Industry, which as you probably know, is loaded with M.I.T. graduates. My family, one daughter, has grown up and has a family of her own, so in addition to the biological changes that have occurred between 1917 and the present time, her mother and I are called Grandma and Grandpappy by our more indis-

creet friends. My hobby has always been that of messing around with Naval Reserve activities, and at present I am associated with an old man's activity, Industrial Relations. I hope this dissertation has not painted for you a mental picture of an old man (used for lack of a more appropriate word). On the contrary, I'm younger than I was in '17."

Ken Richmond: "I don't know that I like your idea of reminding each member of the Class just how old he is once a year at this stage of the game. From a deep sense of obligation, however, because of your dedication to the Secretary's job, I will do what I can for you. I have been very fortunate indeed, always in good health, with a heavy crop of gray hair on my head and with most of my 32 teeth. True, the wisdom teeth went by the boards in 1928 when I connected with this ladies' B.V.D. business. For those who do not know it, I am Vice-president and Treasurer of Brooklyn's Abraham and Straus, one of the ten largest department stores in the world, with branches and pressures and 6,000 employees. My area is management, personnel, and the controller's work; everything except buying and publicity. I smoke like a stove, work hard and long hours—with wide scope for decision, including the privilege of neglecting things I should cover. I am an administrator. Someone defined an administrator as one who delegates to supervisors; checks later and finds nothing has been started; questions how come; then checks again and finds important oversights; reflects that the supervisor has a wife and two children, and that a replacement probably would do no better and would be inexperienced. About this time the administrator recalls that he has already invested six hours in something he could have personally handled in 20 minutes. This is my problem, although our business has a splendid reputation for good management and able people. It grows and makes money."

"My hobby is coins, ancient gold and silver Greek and Roman coins, from the world's first in about 650 B.C. to Marcus Aurelius who died in 180 A.D. The art work is high in quality despite unbelievable difficulties of production. I have coins from Elis where the Olympic games were held; from Mausolus of Caria where his tomb was one of the seven wonders of the world, the first mausoleum. I have coins of Athens from 550 B.C. which bear the first human likeness on a coin, the head of Athena—and also the first design on the reverse, an owl. As a by-product, the coins supply me with contemporary portraits of Alexander the Great—a glamor-boy; Julius Caesar with his own lean and hungry look; Nero with a goiter on his neck and the face of a goon; Cleopatra who looked like a schoolmarm but smart—very smart. Her only portrait is on her coins. Altogether, I have about 100 choice pedigreed specimens each just so in centering, condition and style. This hobby satisfies my secret sense of proportion but may not be too understandable in a course II graduate who specialized in locomotive design. My four children are all married, each with healthy children of their own, six in the aggregate. I know the number and that

three are boys. But I have long since lost track of their ages and birthdays. This is my good wife's department. We of the 1917 Class are getting on in years are we not? I have only five to go before retirement. The Lord willing, these years too will slip by accompanied by anxieties and bills but with the ever-present challenge to do better and more creative work. Who wants more?" — **RAYMOND STEVENS**, *Secretary*, 30 Memorial Drive, Cambridge, Mass. **W. I. MCNEILL**, *Assistant Secretary*, 270 Park Avenue, New York, N.Y.

• 1918 •

Intimately discernible beyond my window pane ducks are investigating the strip of open water where the ice has started to go out of our pond. There are Mayflowers in the front yard, six robins in the garden, and the sun has just fingered the shoulders of Mt. Monadnock as it set in a burst of glory. Tomorrow I shall mail these notes in the relaxed village, two miles away, which is given neither to anxiety nor to enthusiasm. You will read this in June, all of which is appropriate enough since you may be attending Class Day or buying a set of Wedgwood china dinner plates bearing designs by our own Sam Chamberlain. Sam is a living refutation of the cynic's wise crack to the effect that the meek will have to inherit the earth because they can never get it any other way. Gentle and gracious, he has become an international figure whose most recent recognition was the cover article in *This Week* for April 3. Asked to select America's most beautiful home, he chose "Carter's Grove" in James City County, Va. The article is memorable not only for the architectural comment, but for ancestral voices whispering from hall to hall that in the small drawing room of this mansion two future presidents of the United States, George Washington and Thomas Jefferson, made proposals of marriage which were rejected. Was it the same girl, I wonder, and what happened later?

Class secretaries are substantially aided in their chronicling by the Review Office which subscribes to a clipping service. This functions only when M.I.T. is specifically mentioned despite which I have now and then a sheaf of clippings, usually ignored, which testify that your Secretary has spoken here or there. The geography this month includes Adams, Mass., New York City, Boston, plus two places in Connecticut — New Haven and Hartford. No account has been received of the detective work undertaken by him and his wife which resulted in the arrest at gun point of two youngsters (one AWOL from the U.S. Army Air Corps in Louisiana) who had broken into 18 summer camps in our town, looting as they went. The posters say, "\$300 reward for information leading to the arrest and conviction" and so on. We shall see. — **F. ALEXANDER MAGOUN**, *Secretary*, Jaffrey, N.H.

• 1919 •

Our deepest sympathy is extended to the family of John Cosgrove, who passed away on December 21, 1954.

Ed Pickop has been touring the West

Coast for nearly a year, returns to Honolulu June 1. He has visited Fred Hewes several times. Paul Sheeline saw Charlie Chayne in Detroit recently. Charlie had just returned from a trip to California. Paul also had a "lovely dinner with Ev Doten and his charming wife." Glad to have this news from Leight Smith: "Back in the soap business, temporarily, last fall and winter, this time for Colgate, serving as patent expert in a suit over pressurized shave cream. The trial in U.S. District Court, Baltimore, dragged out for five weeks. It will be a long time before I allow myself to get involved in another case. Wife and I drove west in late summer. Spent most of the time in Wyoming, Utah and Colorado. Took many pictures in color and black and white. Spent night with Duke and Dot Herzog at Homewood on way back and got together with them for lunch in Boston in March. We are already planning another western trip for summer 1956." — **EUGENE R. SMOLEY**, *Secretary*, The Lummus Company, 385 Madison Avenue, New York City, N. Y.

• 1920 •

As these notes are written it is, of course, too soon to make any comment on the Reunion but not too soon to predict that it will have been an outstanding success judging by the response to our reunion publicity. If I am not bolted out of office at the reunion I shall give you a report on it in a later issue of *The Review* or in a letter.

Gavin Taylor is with the McColl Frontenac Oil Company, Ltd., in Montreal. Josh Welch is in Atherton, Calif., near San Francisco, address 60 Maple Avenue. Will Boyer is in San Antonio, Texas. Oswald Cooper is in San Francisco, address 2710 Broadway. Fraser Moffat may be reached at 1035 Park Avenue, New York City. Norman Scudder is in Detroit, address 361 Merton Road. — **HAROLD BUGBEE**, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

This is a last minute reminder of the invitation to you and your wife to join the festive annual Class of 1921 get-together at the Hotel Statler, Boston, at 5 P.M. on the afternoon of Alumni Day, Monday, June 13, 1955. Look for the room number on the hotel bulletin board. By this time you have received Class President Ray St. Laurent's newsy letter about the party and next year's 35th reunion. You have also received the application from Technology for reservations for other Alumni Day events. It should be returned promptly in order to insure that your banquet seat will be at one of the 1921 tables.

The Alumni Day morning conference, held in the new Kresge Auditorium, reveals the uses and economics of atomic energy in peacetime applications. With Edward L. Cochran²⁰, Technology's Vice-president in charge of Industrial and Governmental Relations, as moderator, three phases of the subject will be presented by these nationally known authorities: Dr. John Von Neumann, Commissioner of the Atomic Energy Commission, discusses the impact on the

physical and chemical sciences; Dr. Shields Warren, Professor of Pathology, New England Deaconess Hospital, and former Commissioner of the A.E.C., covers the impact on the life sciences; and Dr. T. Keith Glennan, President, Case Institute of Technology, and former Commissioner of the A.E.C., treats the impact on our economy and ways of life. At the outdoor luncheon in Du Pont Court on the campus, President James R. Killian, Jr.²⁶, reports on the changing aspect of M.I.T. as educational and research institutions enter the "reactor age." Various tours and other events are scheduled for the afternoon and you will certainly want to see, among the points of interest, the start of the new Karl Taylor Compton Memorial Laboratories for Nuclear Science and Electronics, made possible by your generous contributions to this year's Amity Fund and the outstanding generosity of the anonymous "Mr. Amity," who has matched your gift with an equal amount. Following the meeting of our Class, the Annual Banquet starts at 7 P.M. at the same hotel. The principal speaker is Arthur S. Flemming, Director of the Office of Defense Mobilization. Princess Ileana will be the speaker at the Ladies Banquet. And the souvenirs at both banquets will be new and different this year — one of the M.I.T. Wedgwood plates designed by Samuel V. Chamberlain¹⁸.

David O. Woodbury's recent book ought to be good required reading in anticipation of the Alumni Day convocation on the peacetime uses of atomic energy. Dave's fine hand has been missing from this column for much too long a time and we are glad to present this recent letter, written from 513 Knight Way, La Canada, Calif. Dave says, in part: "My main project, just now bearing fruit, is the publication of my new book, *Atoms for Peace*, brought out last February by Dodd, Mead and Company. The book is a layman's account of all the various uses of the atom on the peaceful side (power, industry, medicine, agriculture), with some special stressing of the peaceful atom as an international diplomatic weapon following, and quoting, President Eisenhower's remarks. The book is going to be, I think, my most successful to date. It's my eleventh book and a best seller out here. It has made the Scientific Book Club and is being syndicated quite widely in the United States. My other projects include some articles for 'Look' and two stories for 'Reader's Digest.' The first, which appeared in the March issue under the title 'Fighting the Wild Atoms at Chalk River,' is the story of courage and ingenuity in handling a major peacetime atomic emergency at Canada's experimental station in Northern Ontario. The other, on Geiger counters, is to be published about June.

"My split personality between writing and engineering has led me to invent and apply for patents on a small portable ultra-violet lamp for use by rockhounds in discovering fluorescent minerals. It appears that only about one company makes such lamps and that there is a fine chance to improve the product by making it smaller and more efficient. My efforts have reached the stage where the Nu-

clear Instrument Company here has undertaken to manufacture and market the device. I am working with another group for the production of Screen Scribe, the small overhead projector I patented in 1950 and which was made for a year or two. It seems that the market for this device is still good. Meantime, I am starting work collaborating on a book about the United Nations. The principal in this is Tom Slick, San Antonio oil man.

"Personal lore includes the fact that my wife and I are moving from the Los Angeles area and are about to build a new place at Santa Barbara. Our youngest son, Chris, will enter the Air Force in June, and our older son, Pete, now a junior at Pomona College, intends to go into the Navy upon graduation in 1956. The old folks are left alone and want to modify their real estate holdings down to the point where they have only two homes! The other home, of course, is the new one we just opened last summer at Ogunquit, Maine, having sold most of our property there except for a wind-swept point in the middle of the Atlantic Ocean. This house successfully rode out the two hurricanes last year without visible damage. We expect to be in Maine again this summer, where I'm slated to officiate as president of a small outfit known as the Ogunquit Village Improvement Association. Since I was last heard from, I've become a grandfather to one Anthony Cabot Woodbury of New York, son of my second oldest son, Tom, who is taking his final bar examinations at N.Y.U. as an admiralty lawyer.

"On the subject of presidencies, I'm still in that capacity with our small inventor's firm, Creative Research, Inc. We have one highly successful product, a hand-deburring tool for metals, which is in national distribution. Beyond these activities I do nothing except get involved in the various uranium rushes hereabouts. I have not discovered any fabulous mines, but I do have one good sample of pitchblende which gives 80,000 counts per minute on my Geiger. It has only one drawback. We picked the sample up on one of our many geological wanderings, but we don't know where!"

Philip H. Hatch is the author of a complete and well-prepared article on "The Diesel-Electric Locomotive," appearing in the March, 1955, issue of the *General Electric Review*. The paper gives a detailed account of past history, going back to the "oil-electric" demonstration in 1924 on the New York Central's freight line in lower Manhattan's West Street, where the law required an equestrian red flag bearer to precede the locomotive. The present status of the diesel in rail transportation is thoroughly treated as well as the outlook for the future. Phil served on General Electric's test course after our graduation and then established a distinguished record in the railroading field, becoming general mechanical superintendent of the New Haven Railroad and an authority on the use of diesels for both freight and passenger services. From 1951 to last July, he was engaged in the planning and design of new locomotives at the Erie, Pa., works of General Electric. Phil is now chief mechanical superintendent of Long Island Railroad Company.

Two current members of 1921's Second Generation at M.I.T. Club, Franklin T. Flaherty, Jr.'56, and Malcolm M. Jones '57, have established outstanding records which earned them places on the Dean's List for the fall term of 1954. Frank is the son of Mr. and Mrs. Franklin T. Flaherty of Swarthmore, Pa., and Malcolm is the son of Mrs. S. Murray Jones of Newton, Mass., and the late S. Murray Jones. Elsewhere in the Junior League of 1921, Mr. and Mrs. William R. Ferguson of East Orange, N.J., announced the marriage on March 12 of their daughter, Barbara Reinl, to Charles E. Keller, Jr., of Short Hills, N.J. Mrs. Keller was graduated from the Skidmore College, Department of Nursing, and is with the Visting Nurse Service of New York.

A. Ilsley Bradley is the subject of an illustrated article in the *Cleveland Press* entitled "Meet Your Realtor." Owner of the Residential Real Estate Company, 1010 Euclid Avenue, Cleveland, Ohio, he is an appraiser and broker who also does some building. A senior member of the Society of Residential Appraisers, he is also a member of the Cleveland Real Estate Board, the Cleveland Engineering Society, the Cleveland Valuation Committee, the Heights Round Table, the Apartment House Owners Association and the Insurance Board of Cleveland. He was associated with us in Course II and also attended Case and Western Reserve. Ilsley is single and says his spare time is devoted to bowling and golf. He makes his home at the University Club. In the recent balloting, Clayton D. Grover '22, V, President of the Whitehead Metal Products Company, Inc. New York, N.Y., (for 9 years secretary of his Class), was elected to the national nominating committee of the Alumni Association. Henry R. Kurth was elected as representative of the Class of 1921 on the Alumni Council for a term of five years.

Our Class President, Ray St. Laurent, writes that he attended the February meeting of the M.I.T. Club of Hartford, Conn., at which Erwin H. Schell '12, Professor of Industrial Management, was the principal speaker, and ran into two Course XV men, Donald B. Carter of the Travelers Insurance Company and Charles A. Morss, consulting engineer. Ray continues: "In Pittsburgh, I had the pleasant surprise of meeting Ollie Bardes. We were both visiting Westinghouse. Although Ollie retired as president of Bardes Range and Foundry Company of Cincinnati at age 50 and fulfilled an ambition, he could stay in 'retirement' for only seven weeks and now is a busy person, enjoying life to the fullest as owner of three separate, unrelated businesses. His program from Christmas to Easter is to maintain headquarters at his winter home, Palm Beach, Fla., and commute to Cincinnati by air. His three companies are: Cincinnati Elbow Company, Cook Well Strainer Company and IlSCO Copper Tube and Products, Inc. Each has its own well-established operating organization. Ollie reported having recently seen Bill Loesch of the Forbes Division, Pittsburgh Plate Glass Company, in Cleveland. He also spent some time with Zam Giddens, who has been ill. We are glad to

hear that he is much better. He is back in New York and it is reported that he has disposed of his Texas petrochemical operations. Ollie hopes to be back for Alumni Day."

Charles A. Morss wrote a most welcome letter which arrived right on the heels of Saint's note. He reported that he is a consultant mechanical engineer and partly retired. He and Mrs. Morss make their home at 91 Ledyard Road, West Hartford 5, Conn. They have three married children, Mrs. Samuel M. Page, Mrs. Herbert W. MacLeod, Jr., and Charles A. Morss, Jr. Address notices have been received from the Alumni Register for Dr. Axel G. H. Andersen, W. Robert Barker, Colonel Harold O. Bixby, Michael Treschow and Brigadier General Ludson D. Worsham. We will appreciate receipt of details from these classmates to keep our records up to date.

J. Rowland Hotchkiss, President of the Palnut Company of Irvington, N.J., says that a new factory is in prospect for his company to handle the sharply increased demands for their excellent line of fastening devices. The company is a subsidiary of United-Carr Fastener, and Rowland frequently visits the Cambridge offices and gets an opportunity to look over towards the Institute to keep up with its progress. Robert W. Haskell, Director of Engineering of Standard Chemicals, Inc., Natick, Mass., wrote that he will attend our Alumni Day gathering and added: "About May 15, we expect to move into a new home which I am building just around the corner from my present one. The new address is 51 Marked Tree Road, Needham 92, Mass. My daughter, Roberta, is marrying David Channing Crocker, a sophomore at M.I.T. in electrical engineering, on June 18. Dave has been in the army for quite a while and is now planning to finish his course at the Institute, started a few years back. Roberta is a first year student at the New England Conservatory of Music, taking the new course in music therapy. My son, Donald, is twelve and goes to junior high school next year. He seems to be heading for Technology for architecture and design. Mrs. Haskell is now recovering from a long illness and probably won't be at the reunion, but may be able to attend next year."

The Alumni Register has just received belated report of the death of a member of the Class; Maurice de La Salle Kearney of Manchester, N.H., who was associated with us in Course VI. The date of his death and other data concerning him are unknown.

We hope to see you in Cambridge on Alumni Day. If you can't be there, won't you please send your Secretary that note you have been intending to write?—CAROLE A. CLARKE, *Secretary*, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N.J.

• 1923 •

By all rights, the notes this month should consist of a big blank space entitled, "Reserved For The Notes You Fellows Didn't Send In." Even The Review had no clippings to offer. Inasmuch as we use all note material each month, we have nothing left in reserve.

Lem Tremaine, II, sent in an oversized card of a beach scene at Pensacola, Fla., reading, "Wish you were *her*." Now, I am being subjected to blackmail! Your Secretary spent two weeks in Dallas and Fort Worth recently attending various conventions. There are two hustling towns booming almost as much as White Plains. Another nationally known concern will have moved here before you read these notes. Changes of addresses are regularly noted. How about some of you migrants sending in a few letters for these notes? — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 North Broadway, White Plains, N.Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

• 1924 •

This is the in-between season as far as the news front goes, in between Christmas cards and summer postcards. With a long winter behind us everyone is evidently too worn out to pen notes and the lack of news clips seems to indicate a general period of inactivity.

However, even if he didn't pick up much news, your Secretary had a whale of a good time one night in April when he and Ray Lehrer journeyed down to New York for one of the local '24 get-togethers. It was a good group, about 20 in all, headed of course by President Littlefield and graced by the presence of his predecessor, George Parker. George seems to be able to plan his trips to take in all the important functions. We discovered that Dent Massey's official title is director of Customer Relations of American Machine and Foundry. By any other name he's still selling atomic piles, and believe it or not, he's sold three so far. That's not exactly a mass production item. Difficult to know how to bill him in the forthcoming Class Directory. That, by the way, is now in process, and will be sent to you as soon as it's available. Jack Hennessy, who lives only a step away from the University Club where we met, having got the United Nations Building built, is now doing a little job for M.I.T., the structural engineering for the new Compton Laboratories. This is pretty much an all-M.I.T. job, incidentally. Of the architectural firm, Skidmore, Owings & Merrill, Skidmore is '23, Merrill, '22.

Also present, Dr. H. Easton McMahon, who shifted from civil engineering to medicine. He's also shifted his Glen Head address recently, from Chicken Valley Road to Piping Rock Road. That one comes under the head of incidental intelligence. H. H. Abdul Razzack told a story which no one there will ever repeat. Not that it was offensive, matter of fact, it was entirely proper in most circles, but its punch line depended upon a clucking pronunciation of a sort impossible to a western tongue. Razz, by the way, is an industrialization and planning engineer, and if you want to know what that is you'll have to ask him.

Johnny Fitch, looking very happy about civilian life after his long years in government jobs, was on deck. Johnny is with Ebasco. Greg Shea and Nate Schooler were there. So were George Di-Somma, Perry Maynard, Gordon Billard, Elko Honigman and Al Anderson, an-

other Ebasco man. The City of New York was ably represented by Walt Gress who keeps it supplied with water. You remember during their water shortage a few years ago, Walt was pleading with the inhabitants not to drink water? He's still at it, and had enthusiastic support. Anatole Gruehr and Wink Quarles completed the party and did their best to make it a lively evening. It was.

So far this sounds like an all-New York column, so let's shift to the West Coast, or rather vice versa. The ex-president of the Los Angeles M.I.T. Club, Phil Bates, stopped by the other day, sporting the California tan that by now is standard equipment. For old times sake and because we were thirsty we visited Walton's for a cup of coffee, then made a quick tour of the new Auditorium. It has been in use for some weeks and it's a truly remarkable structure. The roof is just getting its protective coat, a trowelled-on mixture of liquid Plexiglass and crushed granite. Very handsome material, brand new and reputedly with excellent characteristics. We also looked into the Chapel, right near by. So far it's only a shell, but a shell the like of which you never saw before. Should be completed by Alumni Day and some of you will have a chance to see it then.

On April 12 the annual A. D. Little Lecture was delivered by Charles Allen Thomas, Monsanto President. "Creativity and Science" was his topic and it was well received. It gets printed for limited distribution, and if any of you would like a copy just drop your Secretary a line. Couple of our top Navy men in the Pacific are M.I.T. men, Admirals Stump and Pride. Admiral Stump got his master's with us in Aeronautical Engineering. He's now commander of our Pacific Fleet after a long record of distinguished service. His first sea assignment after leaving M.I.T. was on our first carrier, the *Langley*, and he was skipper of the *Lexington* when she went down in the Pacific in 1943. Admiral Pride was a couple of years after us, and he now has the ticklish job of commanding our fleet around Formosa.

A newspaper story of Bill Rosenwald's appointment to head the United Jewish Appeal bills him as a super-salesman and starts with a quote from a close friend, "If William Rosenwald had devoted his full time to business he would be the richest man in this country." His job this year; raise \$100,000,000.

So much for now. Hope to see many of you on June 13. That's Alumni Day at the Institute. And if you're reading this it means you've already given to the 1955 Alumni Fund and consequently the memorial to Dr. Compton, for which many, many thanks. — HENRY B. KANE, *Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

By the time this issue of The Review reaches you, the 30th Reunion will be a matter of history. We hope you made it, but if by chance you did not, there will be a complete report of it in the first issue next fall.

News items are not very plentiful, but a few bits of information have gotten

through to your Secretary. The New York *Times* in March carried the information that Joan Elizabeth Hoxie was married at Scarborough, N.Y., in the afternoon of March 19 to Michal Wild Bristol. The bride was given in marriage by her father, John Hoxie, XV.

The Providence *Journal* recently carried some interesting information regarding Arthur Merewether whom we of the Class of 1925 claim since he received his master's from the Institute with us. This article indicated that Arthur was a former hot infielder for East Providence High, Brown University and the Pittsburgh Pirates. "Arthur played baseball and hockey and was rated a great infielder for Brown. He got his master's degree at M.I.T., then joined the Pittsburgh Pirates. He did a year in the bush leagues, coached baseball and hockey at Andover Academy. One day on a trip to Boston he stopped off to do a fast examination of the Army Air Corps office and in a year or so was back at M.I.T. studying meteorology for the Army. In 1935 he and a friend crash-landed their Army plane at Seekonk, skidding onto Fall River Avenue, pushed the plane back on the field and took off again. When the war started in Europe, his superior was Captain Robert M. Losey, who was sent to Norway on a civilian mission and became the first American casualty of the war when killed by fragments during a German aerial bombardment. Arthur was promoted to chief meteorologist for the Air Corps where he led a wartime career that is too full for this column. Since 1946 he has been chief meteorologist for American Airlines. He's also the only meteorologist we ever heard of who has some connection with meteors. During the war he discovered a lake in Labrador. Last summer the National Geographic Society explored Arthur's lake and said it probably got its bed from a falling meteor."

Your Secretary had a few minutes in Chicago recently and talked both with Tony Lauria and Herb Taylor by phone. Tony and his wife will observe their 25th wedding anniversary this summer and have plans for a four-week trip to South America. Tony promises to give many more details upon his return. Herb has recently taken on a new position, is still connected with the mining industry and finds himself extremely busy.

Just as this goes to press, I have received word that Fred Rice is hospitalized with a heart condition and his wife says he will be laid up for several weeks. I hope by the time you receive this he will be back on his feet. Some of you might like to drop him a note at his home, 202 Bacon Street, Natick, Mass. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T., Cambridge, Mass.

• 1926 •

When at 5:15 the sun came bouncing off the sea into my bedroom this mid-April Sunday morning, it heralded a nice day, one that I surely did not want to spend writing class notes. Hence after brewing a cup of coffee, here I am and the notes should be completed before breakfast is served in Pigeon Cove. When I picked up the March issue of The Technology Review, the picture on the cover

looked terribly familiar, so I checked the contents page and sure enough, the title was "Surf Spray at Bass Rocks," which is that part of Cape Ann adjoining Rockport about four miles south of where I am sitting right now. What an opportunity had slipped by! I could have built that into a real story of how the Class of 1926 notes were now being featured on the cover. It was over the dam though, and since notes are always written two months before publication, there was no point in trying to cash in on it at such a late date. I made up my mind then and there to contact the Editor of *The Review* and ask to be forewarned if Cape Ann was ever again featured on the cover but due to the pressure of Uncle Du Pont's business or some similar worthy excuse, I never got around to it. Then whack-o-bang, along comes the April issue with the cover "Lobster Fisheries at Bay View, Cape Ann" and this is four miles north of where I am sitting right now. If that isn't grounds for getting fired for neglect of duty there can be no grounds. Therefore, if anyone wants to fire the Class Secretary, just write to the Class President — his name is D. A. Shepard, Rockefeller Plaza, New York City.

Even though my timing is way off, I still must comment on this cover photo of the Lobster Fisheries because I understand this plant is now owned by an M.I.T. man, Roger Babson '03, who purchased the place as an investment a few years ago. It is the largest lobster business in the world and when you eat a broiled live lobster in Washington, Cleveland or Chicago, the chances are 25 to 1 that it came from here and very likely by express. The Bay View plant has huge storage tanks that are filled with fresh sea water (I mean new water, not water that the salt has been taken from). I have heard figures on the number of lobsters stored here and they are astronomical. The lobsters are brought from Nova Scotia by ship in large quantities because local lobsters are not sufficiently available. Most local lobsters are consumed right in the area. How many times have I heard friends who have summer places here on Cape Ann say, "I wish I could find some way of making a living here, so I could live here all of the time," and this is the way one man discovered how to do it 25 years ago.

We recently received a nice letter from Win Russell who is still in Formosa. My brother-in-law, Win Southworth (also '26) saw classmate Russell in Taiwan last summer. In Win's letter (I'm talking about Win Russell now) he starts off by saying that I may, for security reasons, refer to his letter, but not quote it. That makes me work for when I receive a letter from a classmate, I usually clip it to my own long hand notes and say "please copy." Anyhow, Win reports that the M.I.T. Club in Taiwan meets four times a year and often when an important visitor arrives a meeting is whipped up in a hurry. One of our newspaper clippings this month tells that Admiral Pride took courses at M.I.T. and upon looking in the Alumni Register we note that he is listed under '26. Perhaps he was one of the visitors to Taiwan M.I.T. Club. Two classmates who are active members are

H. Y. Lo and M. C. Chen. Win sends his best wishes to all of the Class and from the way his letter reads, we fear that the Class Notes cause him to suffer some nostalgia. Such an intent is wholly unintentional but all of the characters we write about are real.

Jim du Pont was in the office the other day but I happened to be in Akron on the same day — sorry to have missed him. I suppose too, I'll have my knuckles wrapped for having been in Akron and not looking up our classmates in the area but it was in one day and out the next. I also found that the Cleveland airport is a dickens of a long way from Akron and I was in buses and taxis for a longer time than in the air between Cleveland and Boston, hence I couldn't call any of our friends in Cleveland either. I hope to have a little better luck in Detroit next month and plan to see Dave Sutter and Gordon Spear. The clipping services brought in a story about classmate Monsignor Arthur Riley. His parishioners and friends, seven hundred strong, recently had a reception for him honoring the completion of his first year in Quincy which certainly indicates how well he is liked. Now I'm going to have to admit that I did not finish these notes before breakfast and I had to pick them up again in the evening upon returning to town. As a result, I can now hear Ed Sullivan's program just coming in on TV and since it's one of the few programs I look at, I plan to dash. There is only one more issue of notes this season. That means it won't be long before we are sailing because we never write notes during the sailing season. Till July, the last issue of the season. — GEORGE WARREN SMITH, *Secretary*, c/o E. I. duPont de Nemours and Company, Inc., 140 Federal Street, Room 325, Boston, Mass.

• 1928 •

Ralph Joep received a letter from Walter Hildick enclosing a newspaper clipping (*Daily News Record*). The clipping contained a photograph of Al Dempewolff and the announcement that Al has been named assistant to the General Manager of the Textile Division of Celanese Corporation of America. Walter Hildick, himself, is president and treasurer of Curtis and Marble Machine Company, builders of textile machinery, with main office and works in Worcester, Mass., and a southern branch in Greenville, S.C. If you are to be in the vicinity of Boston on Monday, June 13, by all means plan to attend the Alumni Day Dinner. This is one time of the year when you can be certain of a good gathering of "twenty-eighters." We guarantee you a most enjoyable and memorable evening! — GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, N.Y. WALTER J. SMITH, *Assistant Secretary*, 15 Acorn Park, Cambridge, Mass.

• 1930 •

Our Twenty-Fifth Reunion is at hand! If you haven't as yet advised us that you are coming, with or without other family members, please do so immediately and then return to finish reading these notes. Professor George P. Wadsworth, Room 2-285 at M.I.T., will be glad to handle your last-minute reservations at Baker

House. An excellent program has been planned, so all that may be said now is, "Come!"

Harvey Chapman has been promoted to the position of chief engineer by the Evans Products Company of Plymouth, Mich. He visited your Secretary recently at the shipyard in Quincy. Bryant Kenney, a director of Standard-Vacuum Oil Company in New York City, has just returned from a business trip to Indonesia and India. Ben Buerk of Buffalo sends greetings from Haiti, where he has been vacationing. Herm Botzow will be at the reunion if weather permits. Herm operates a large farm in Brunswick, Ohio. Ed Hawkins writes from Danville, Va., that he hopes his tight schedule will permit his attendance. If Bob Henderson isn't with us at the reunion, it will be because of current labor negotiations in which he is involved at the Climax Molybdenum mine in Colorado. Ralph Rowzee of Sarnia, Ontario, is chairman of the nominating committee for class officers. Dick Wilson of Rochester and your Secretary will lend a hand. We expect to have church services conducted in the new M.I.T. Chapel during our reunion by Catholic and Protestant clergymen who are members of our Class. Maurice Herbert of Franklin, Mass., is president of a paint company bearing that town's name. His two sons, aged three and one, will be fitted for golf clubs soon. We suggest that Louise Hall take up writing as a sideline. Her humorous letters to Alumnae in conjunction with the reunion were masterpieces. Louise is on the publications committee for the North Carolina chapter of the A.I.A., which gets out a magazine entitled "The Southern Architect." She serves also as chapter archivist. Fellow architect Bob Schildknecht of Cincinnati plans to attend the reunion with his family. Will you be there with yours? Please try to make the answer, "Yes!" — PARKER H. STARRATT, *Secretary*, 1 Bradley Park Drive, Hingham, Mass. *Assistant Secretaries*: ROBERT M. NELSON, 48 E. Lawrence Road, Phoenix, Ariz. ROBERT A. POISSON, 150 E. 73rd Street, New York 21, N.Y.

• 1932 •

We have some up to date information on several of our classmates from whom we haven't heard in a long time. Gilbert Amerman is research associate of the National Association of Cost Accountants, 43 Prospect Street, East Orange, N.J. Gil is a bachelor, but confesses he still has a weakness for the distaff side. His hobby is hiking, with a little mountain climbing thrown in for good measure. Clarence Stacey is operations manager of Wingfoot Lake Division of Goodyear Aircraft Corporation, whose personnel varies from 400 to 800 people. They manufacture ZSG4 airships for the Navy, radar components, rubberized fabric items for Goodyear Tire and Rubber Company, and miscellaneous aircraft parts and assemblies. Wingfoot Lake is the main base for the Goodyear airships. The Staceys — wife, Louise, son, Roger, 18, and daughter, Susan, eight — live at 415 Rellim Drive, Kent, Ohio.

An interesting assignment is ahead for John Bellizia, who left in April, with his

wife and four children, for Pakistan to be Chief Sanitation Engineer, F.O.A. This should be ideal location for his hobbies of photography and philately. John had been connected with the Sanitary Engineering Division of Massachusetts Department of Public Health. Ideal too for Ernest Anderson is the approaching summer. He is building a summer cottage on a bluff overlooking Lake Michigan at Glenn, Mich. Ernest is an electrical engineer with the L. E. Myers Company of Chicago, electrical contractors for public utilities in the middle and southwest. He is married, has two sons, Paul and Tim, 17 and 10, lives at 460 Evanston Avenue, Lake Bluff, Ill., and is active in Methodist Church activities, American Legion and Army Reserve.

Art Seiler is president of Gates Engineering Company, Wilmington, Del., which is primarily concerned with heavy duty corrosion engineering. They pioneered liquid air-curing elastomeric coatings, chiefly neoprene, along with some other plastics. They also manufacture in sheet and putty form and have quite a large contracting organization for applying coatings. In conjunction therewith they have the Delaware Valley Steel Works, a fabricating company that manufactures all types of pressure vessels and other code equipment, specializing in chemical and industrial fields, with Delaware Valley making the equipment and Gates lining and coating it. The New York Times and Business Week recently carried considerable publicity on the work they did on the liner *United States* in protecting her bow, rudder and other parts.

John Yeager is in business for himself, being a partner in the firm of Fair and Yeager, general insurance agency, Natick, Mass. John and his wife, together with their two daughters, twelve and nine, live on Cochituate Road, Wayland, Mass. He is active in civic affairs and has held various offices in the Town of Wayland. The following is quoted from a note received from Jim McMartin: "Own my home. Have two cars. Have three children, ages 12, 10 and 9. Travel a lot. Have numerous business associates in many companies. Love West Hartford. Love my job. Love my wife. Hope all classmates can say same." Jim is director of engineering for Fenn Manufacturing Company of West Hartford, Conn., and it sounds as though he is leading a happy and contented life. Had a nice card from Joe Cimorelli, expressing appreciation for the Class Notes. Thanks Joel! He is administrative engineer for Radio Corporation of America, Camden, N.J. Other than his job, he says he has nothing to report.

Another Radio Corporation of America man is Carlos Burnett, who is manager of their Cathode-Ray and Power Tube Operations Department, Tube Division, Lancaster, Pa. His job covers engineering and manufacturing for black and white TV picture tubes, camera tubes for TV, power tubes, all types, storage and photo tubes, photo multipliers and microwave tubes. The work involves about 4,500 personnel and is done in three locations: Harrison, N.J., Marion, Ind., and Lancaster. Carlos travels a lot. His wife and

three children are living on Cape Cod, but the Burnetts are building a home in Lancaster.

Ed Burritt asks, "How do I learn what's new with the other 'Depression Babies'?" His address is 6 Smith Street, Marblehead, Mass. He says he is busy in the gas turbine business, being manager, sales, Aircraft Engine Department of General Electric Company. He is married and has a son at Purdue and a daughter still growing up. Ed plans to be at the Reunion in 1957. — ROBERT B. SEMPLE, Secretary, Box 111, Wyandotte, Mich. Assistant Secretaries: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R.I. ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1933 •

"Man of Distinction" award this month goes to Gordon Bunshaft, chief designer of the architectural firm of Skidmore, Owings and Merrill in New York. Gordon received special credit by New York City's Fifth Avenue Association in giving the firm its biennial award for the best new building in mid-town Manhattan — Lever House. Congratulations to Laurance Sibley, VI, for his appointment as vice-president of the Combustion Control Division of Electronics Corporation of America in Cambridge. Before joining this firm in 1945, Larry was with Bendix Aviation. The New York Journal American recently carried an interesting story about the exploits of Bob Heggie, V, who is director of research of the American Chiclet Company, a firm that dispenses 35,000 tons (yes, tons) of chewing gum annually. Out of some of the research under Bob's direction came the discovery that chlorophyll kills the odors of onions, alcohol, and so forth; the result: clorets rank near the top among the company's products.

We were very sorry to hear of the death of Charlie Alba, VI-A, who worked with Malpar in Washington. Charlie is survived by his wife and two daughters, to whom the Class extends its deepest sympathy.

Three of our roving classmates showed up on campus recently: Colonel Carroll Newton, IV-A, assigned by the Corps of Engineers to the 13-week course at the Harvard Business School, and seemingly enjoying every lecture and recitation; Philip Rutledge, I, who is currently serving very ably as a member of the Visiting Committee on the Department of Civil and Sanitary Engineering; and Dave Smith, VI, Vice-president of Philco, who took time out of his busy schedule to review the problems of the Meteorology Department as a member of that Visiting Committee. Dave brought good reports of Don Fink, VI-C, who shares some of Dave's research responsibilities at Philco. The story of the month comes from Bill Rand, who reports modestly that, "most of my time is taken up with the planning (and eventually the development) of a new city. This ranch is only an hour's drive from the center of Los Angeles, and we feel that the time is about right to start seriously in the long range development of the property as real estate. The eastern 10,000 acres is ideally situated with ample water, power, gas, rail

and national highways, and we hope eventually to develop thereon a community of about 50,000-75,000 people, with its own light industry. Since the present population is composed of about 50 people, a few thousand cattle, some sheep, we have plenty of room in which to maneuver. The greater part of 1955 will be taken up with master planning and engineering. Next year we will be started on actually developing the land." To an easterner, that sounds like a "powerful lot" to get accomplished in a short time. The best of luck in your new venture. — GEORGE HENNING, Secretary, 330 Belmont Avenue, Brooklyn 7, N.Y. R. M. KIMBALL, Assistant Secretary, Room 3-234, M.I.T., Cambridge, Mass.

• 1934 •

Jink Callan advises that Fred Vaughan has recently started his own business as the Suffolk Converting Company, Lindenhurst, Long Island. Fred had previously been plant manager for Grinnell Lithography Company and was concerned with the manufacture of boxes. John Hrones gives as an unseasonal sports note for the June issue the following. When the Institute's new skating rink was dedicated in February, a hockey game between the Alumni and varsity was played. Representing '34 on the alumni team in addition to John, were Roger Williams who is with Metcalf and Eddy, and Ranny Thompson who is with Pratt and Whitney in Hartford and who brought along his wife and three children. With veterans of this caliber participating, small wonder that the Alumni were able to rack up a dazzling 6 to 5 victory. Carl Wilson reports having a pleasant lunch with Frank Milliken in New York and a chance encounter with Duke Hempstead at the corner of 49th and Lexington. We also hear that George Jordan was last fall appointed construction engineer and housing adviser to Trinidad by Foreign Operations Administration. Before this he had been manager of a housing project in Newport, Va.

Paul Wing, who is with the Mason-Neilan Regulator Company in Boston, delivered a paper before a symposium on "(Liquid) Level and Its Measurement," in Newark on April 6. The symposium was sponsored by the Instrument Society of America and Paul's paper was titled "Exploiting the Displacement Level Principle."

We record with sorrow the untimely death last fall of Bill Mill's son, Donald, who at the time was attending Admiral Farragut Academy in St. Petersburg, Fla. A new building at this school, made possible by Bill and his wife, will be dedicated to the memory of Donald. — WALTER MCKAY, Secretary, Room 33-211, M.I.T., Cambridge, Mass.

• 1936 •

News comes from all over for the Class this month. Word has come that Bill Bode, a transplanted Southerner, has been named general manager of the Selig Company of Georgia; manufacturers of floor and maintenance materials. Bill, a native of Lawrence, Mass., attended Lawrence High School before graduating from M.I.T. He served as a Lieutenant

Commander in the Navy Sea Bees during World War II; most of the time in the Pacific Theater of Operations, and was released from duty in November 1945. After the war he took up residence in Atlanta, Ga. Prior to Navy duty he was employed with the Warren Brothers Construction Company of Cambridge. Bill has been with the Selig Company since 1947. He is active in community affairs; a member of the Atlanta Sales Executive Club and the Chamber of Commerce there. He is married to the former Ellie Robinson of R.I. and they have two children. His recipe for mint juleps was not received in time for the Class Notes! Bernie Vonnegut, one of the class members who went on to get a Ph.D. in physics and chemistry, addressed a group of scientists at New York University in February. His talks covered his new theories pertaining to lighting. Bernie is now with Arthur D. Little, Inc., in Cambridge, Mass. Prior to that he was with General Electric, where he devoted much time to the seeding of clouds to produce rain. It was his idea to use silver iodide crystals instead of ice crystals for rain making purposes. (Secretary's note: In view of his rain making propensities there is some question as to whether he will be invited to the Class Reunion next year!)

A stunning picture of a pretty bride in the Boston press tells us that another bachelor has fallen from the class ranks: Ben Cooperstein who married Florence Arleen Porter of Salem, Mass., in February. There is considerable detail of what the bride wore but nothing as to what Ben had on, although, presumably it was not his R.O.T.C. uniform. Following a wedding trip to the West Indies they will live in Boston — if Ben can resume a normal life. Fred Prah comments from Wenham, Mass., that after 17 years at the United Shoe Machinery Corporation he finally "flew the coop" and is now vice-president and director of research and development for a new plastic container company in Harvard, Mass.; the Bradley Container Corporation — Bradley being for Bradley Dewey of Dewey and Almy Chemical Company, who started the company. Fred states that he has been with this new company since its start on December 1, 1953, and is now planning to move to Harvard, Mass. (Fred should also be listed as one of those who contributed \$5.00 or more to keep the Class Treasury alive!)

Further word comes about Bud Knudsen who was appointed general manager of the Detroit Diesel Division of General Motors Corporation, effective as of March 1. Bud goes to Detroit Diesel from G.M.'s Allison Division, at Indianapolis, Ind., where he has been manufacturing manager for aircraft engine operations since December 1954. He has been with Allison since February 1953. After graduation from M.I.T. in 1936, Bud spent three years in Detroit machine shops before joining G.M. as a process engineer at Pontiac Motor Division. At Pontiac, he served as chief inspector-defense plant, superintendent of the car assembly plant and assistant general master mechanic before he was appointed director of the Process Development Section of General Motors in August, 1949. In February,

1953, he was transferred to Allison as assistant manufacturing manager of aircraft engine operations, and was appointed manager on December 1, 1954.

The most interesting news this month comes from Cesar Calderon in San Juan, Puerto Rico. After receiving his engineering degree in 1936, Cesar went to work for an American engineering firm. Two years later, he returned to Puerto Rico and was employed by a company that sold refrigerating equipment. During this period, he became familiar with ice cream plant operating methods and his interest in this industry was stimulated. In 1940, Cesar went into business for himself as a plant consultant specializing in the installation of refrigeration equipment. But World War II intervened — equipment became impossible to obtain — and Cesar was on the verge of going out of business. Almost — but not quite. Cesar took inventory and found that the only valuable property he owned was 15 freezers of the type used to dispense soft-served ice cream and similar frozen products. He set up one of these freezers in a roadside stand. The reaction of the public was overwhelming; people stood in line to buy cones and dishes of the frozen product. Soon, he had all 15 freezers in operation. The capital acquired as the result of the success of the wartime venture was not allowed to remain idle. In 1945 Cesar was offered the opportunity to purchase the ice cream plant administered by the Galinanes family. The price was \$250,000 with the total due within five years. (Where he raised this money would be of interest to all Course XV men!) Needless to note, under Cesar's supervision the plant prospered and payment was completed well within the time limit. Emphasis during those years was placed on developing a loyal trade among the citizens of Puerto Rico, and so thorough a job was done that by 1950 only two ice cream companies remained active there — one controlled by Cesar. The next step was obvious to Cesar: The other plant was bought and the original Galinanes plant was abandoned. With the new one-story building as the foundation, an extensive modernization program was instituted. A second story was constructed and the old equipment of both plants was discarded. Renovations were not completed until 1953, although the plant maintained operations while the alterations were being effected. Improvements in equipment never cease, however. As soon as dairy engineers unveil a mechanical advancement in the science of ice cream making, it is inspected by the Mantecados Galinanes management (i.e. Cesar) and, if found suitable for the Puerto Rican operation, is purchased and installed without delay. As Ice Cream Field for January, 1955, says: "Thus, it is no wonder that the visitor to the San Juan plant is impressed by the up-to-date appearance of both factory and equipment. It is no exaggeration to say that production facilities in this building rank with those found in the very best American ice cream plants." Total output of the 200 employees of whom 60 work in the plant amounts to 3,000 gallons a day, including the company's premium product — sold in some of Puerto Rico's finest

hotels, among other places — and is labeled "Velvet Supreme." The Hilton hotel chain determined recently to find out if Cesar's ice cream served at the Caribe Hilton Hotel in Puerto Rico was as good as the frozen product served in another of its establishments — the Waldorf-Astoria in New York City. A taste panel composed of 10 hotel and ice cream experts was set up and an extensive variety of flavors was sampled. No identification of products by the country of their origin was made. Without exception, the taste panel considered the "Velvet Supreme" flavors made by the Puerto Rican plant superior. The voting on each flavor never was less than 7-3, with most of the balloting recorded at 8-2 and 9-1. (Advt. — Secretary.)

Cesar says that he has been happily married for 16 years with two daughters, ages twelve and five, and a son, ten. He cordially invites all Class '36 men to come by for a free ice cream cone at any time. (A welcome change from the prices at the Caribe Hilton!) He sends the further assurance that any classmate will be suitably "looked after" if he does come. (Perhaps in a few years we will have to have a tax deductible winter meeting in San Juan!) — HENRY F. LIPPITT, 2ND, Secretary, 30 Rockefeller Plaza, Room 3123, New York 20, N.Y.

• 1938 •

After a two-month silence, it is a pleasure once again to have something to report. Bert Grosselfinger, who is with the Uhde Corporation, writes from Germany that he has been spending a few weeks making personal contacts for his business. In Maintz on February 21 he met, by coincidence, Elmar Piel and his wife of a few months. The carnival at the time apparently lent the proper atmosphere for a reunion celebration:

Given Brewer writes, "I have just returned from a one-month trip abroad visiting England, France, Switzerland, Italy and Egypt. I gave a talk before the Department of Aeronautics at the Imperial College of Science and Technology in London on February 17. This talk recounted some of my strain-gage tests on helicopters, flying boat for the ONR, and the Kitimat Project in British Columbia. Of interest to the Class is the news that Yoshio Mikimoto has joined the East Asiatic Consultants, Inc., in Japan. I just had a letter from Miki outlining some of his work and what he has been doing in the past few years."

Harold H. Strauss is now a member of the technical staff of the Radar Division, Hughes Research and Development, Culver City, Calif. Warden Hartman early this year was appointed assistant treasurer of the Armstrong Cork Company. Frank Wardwell has been elected president of the M.I.T. Club of Kentucky. — DAVID E. ACKER, Secretary, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

• 1939 •

Since last report I have received a letter from Nelson T. Bogart, Jr., who writes as follows: "... My employer, Standard Oil Company of California, took me off my job as superintendent of the Cracking

Division at the Richmond Refinery last September and sent me to the 26th Advanced Management Program at Harvard. While there dropped over to M.I.T. and had nice visit with Professor T. K. Sherwood, and Head of the Department of Chemical Engineering, Walt Whitman. My, but the old place has expanded. Have been stationed in the San Francisco office since I returned, on a Training Assignment in the Manufacturing Department. . . . Nelson's address is 2647 Tuller Avenue, El Cerrito, Calif.

Then Larry Lyons wrote ". . . We moved into our new home last October. 'We' consists of Mom and Pop besieged by Carol, five, Ann, eight, and Steve, eleven. It is hard to believe that I am due for a 15-year plaque from Burndy Engineering Company. Burndy is a manufacturer of electrical connectors, thousands of types, and my present job is that of manager of the Western Plant in Lynwood, Calif. Several recent catalogs are enclosed to give you an idea of the electrical connectors which we manufacture. The Western Plant here in Lynwood is an integrated unit having a small engineering department, pattern shop, aluminum and bronze foundry, machine shop and warehouse. If you are ever in the vicinity, it would be my pleasure to show you through the operation. It was good to hear from you, Hal, and I look forward to seeing you before too long. . . ." Larry lives at 5536 Holt Avenue, Los Angeles 56, Calif.

And, on April 7, Ken Cook wrote ". . . This is my third year in teaching after some 10 years field work in geophysical exploration for the U.S. Bureau of Mines (1943-1946) and U.S. Geological Survey. I am currently Professor and Head of the Geophysics Department at the University of Utah. Our department is expanding fast, especially in the area of graduate students majoring in geophysics. . . . P.S. I married a Utah girl after I came out West. We make our home in Salt Lake City and have a boy, six, and two girls, two and one-half years, and nine months. . . ."

Just yesterday I heard from Al Laker and find he is no longer in the "waffle" business, having changed companies to accept a job in sales and promotional work with the Associated Brick Company of Los Angeles. Al will either be selling bricks or laying bricks from now on and we'll all be interested in seeing what comes out. We're all watching you Al. Good luck! — HAL SEYKOTA, Assistant Secretary, c/o R. T. Collier Corporation, 714 W. Olympic Boulevard, Los Angeles 15, Calif.

• 1941 •

Carl Mueller was promoted to a vice-presidency of the Bankers Trust Company in New York in February. He is the head of the petroleum group in the banking department. Congratulations, Carl! Another note from the business world: Teddy Walkowicz is representing the Rockefeller interests on the board of one of their subsidiaries, Nuclear Development Associates, a concern working on the design of reactors and other nuclear apparatus.

Class members speaking at A.I.E.E.

meetings around Boston were Robert Fano, Associate Professor of Electrical Communications at the Institute, on "Information Theory and Cybernetics"; and Davis R. Dewey, Second Vice-president of High Voltage Engineering Corporation in Cambridge, on "The Processing of Insulating Plastics with High-Energy Radiation." Also speaking before the Plant Engineers' Club was Lew Jester, application engineer in the GE New England District, on "Industrial Plant Power Distribution Systems." — IVOR W. COLLINS, Secretary, 28 Sherman Road, Wakefield, Mass.

• 1942 •

Professionally speaking, the only news this month is that Irving S. Fagerson, research professor of Food Technology at the University of Massachusetts, recently addressed the Ladies' Night meeting of the American Society for Quality Control, Boston Section. Irv served many tasty bits of information after a delicious dinner at the Tech Faculty Club. In the course of research and the standardization of tests he has been using statistical techniques to great advantage. We learned about taste stimulators, personal differences in sensitivity to tastes and odors, regional differences in preferred tastes, weight control problems in packaging, and were assured that almost anyone (including me) could be taught to differentiate, reliably, between Coca-Cola and Pepsi-Cola.

As we visit Tech people, correspond with friends, and read the items from the clipping service we become aware of the increasing level of non-technical, non-educational, and non-business activities of our classmates. I hope you share my special interest in news about far-distant travelers, about those who lead in their community affairs, and those who are active in the arts. John E. Barry is chairman of the Board of Health in Hingham, Mass., in addition to his regular position as a food technologist with the A & P. He is in charge of production control and processing as an assistant to the operating superintendent of the A & P national fish department.

We recently received a news clipping from New York telling of Bob Greenes' activities as chairman of the Coal and Oil Division of the U.J.A. (United Jewish Appeal) Drive in greater New York City. This rated a picture and a column because Bob had just completed two weeks' stay in the hospital for treatment of a back injury when a meeting was called to plan the annual dinner and dance fund-raising affair. He was still in a cumbersome cast that was hardly comfortable and far too bulky to allow him to put his trousers on, so he bought an oversized pair of blue jeans and came to the meeting. Fortunately the office had a wall telephone so he operated it while standing. The newspaper picture was captioned "Back to Wall, Greenes Keeps Working for U.J.A."

The Alumni Register records are coming in thick and fast, so in the absence of more lively mail we have gleaned some further nuggets: Academic promotions to the rank of Professor have come to Thomas E. Hicks at the University of

California and to Donald A. Norton, also in California. Dr. Richard Malone (M.D.) has gone on active duty with the Air Force in the rank of captain; Roger H. Olson is now a major in Meteorology; Archie J. Knight is now a colonel in the formidable Air Force organization of TUSAFJAMMAT, APO 206A, New York; Charles B. Winkle is now a colonel, c/o Director of Inspection Services at the Inspector General's Office in Washington; Alex F. Hancock is now a commander, as is Joseph P. Meehan, Jr.; and Robert W. Curtis has been promoted to the rank of captain in the Navy.

Quite a few '42 men are well beyond the 48 states. If anyone contemplates long-distance travel he will be sure to find a cordial welcome from Robert E. Staff in Seward, Alaska; Erwin Anisz in Mexico City; Ricardo Zuloaga and Akbar Brinsmade in Caracas, Venezuela; and George E. Howe who is working for Pratt and Whitney somewhere in England. Remigo S. Roda, Jr. is with TWA's Paris office at the Orly Aeroport; Charlie Stempf's business office is at Bombas y Construcciones (Worthington Corporation), Calle de Lagascia 102, Madrid, Spain; Cyril M. Krook returned to South Africa some years ago and can be found at Sea Point in Cape Town; and C. Napier Thomson recently moved from Cremorne to Sydney, Australia.

Getting back to Cambridge, the Alumni Fund reports that 27 per cent of the latest "class roll" of the Class of 1942 has already contributed an average of over \$22.00 each (total \$4671.00) to the Karl Taylor Compton Laboratories for Nuclear Science and Engineering. This is a higher per capita than that of all but a few of the younger classes, but not quite average in per cent of class represented. We suggest, solicit, and urge all who have not yet been heard from to add their support and dollars (which will be matched by a generous anonymous Alumnus) to a vital field of the future — which is also a living memorial to a brilliant and beloved leader of our own past.

Our class treasury was last reported in July, 1953. Balance that date was \$293.94; receipts since then, class dues and interest, were \$46.62; disbursements for the Reunion Booklet (still a few copies available) were \$300.81; this leaves a net cash on hand of \$39.75.

Without having set up an analysis on I.B.M. punch cards and without having made a detailed tabulation, I have the feeling that during the three years of Class Notes since our Tenth Reunion (and for that matter during the ten years before that) these columns have chronicled the activities of only a small percentage of this section's readers, and of a still smaller part of the Class as a whole. If you write it, I submit it, and The Review prints it — barring the inevitable jarring note of infrequent misfortune, the more communication, the more information, the more pleasure. And thanks to all for your messages. — LOU ROSENBLUM, Secretary, Photon, Inc., 58 Charles Street, Cambridge 41, Mass.

• 1943 •

Stan Proctor has opened a manufacturers' agency and distribution office at

1900 Euclid Avenue in Cleveland under the firm name of Stanley M. Proctor Company. He will specialize in hydraulic and pneumatic controls and instrument devices. This firm will provide products and services for the machine tool and process industries in fields associated with automation. Stan is a member of the Cleveland Engineering Society; he lives at 19400 Wickfield Road, Warrensville Heights, Ohio. Bob Anderson has recently been made a member of the architectural and engineering firm of Ganteaume and McMullen in Boston. Bob has been with this firm since 1946 and has done some outstanding construction supervision on their projects in the East. Bob, his wife Pat, and their lovely little daughter live at 243 West Street, Needham, Mass.

Captain Albert A. Poppiti of 728 South Lincoln Street, Wilmington, Del., has been appointed meteorology instructor for the recently formed Flight D of the 9498th Air Force Reserve Squadron. Captain Poppiti served as a meteorology officer with the Army Air Force during World War II, receiving his training at the Institute. He is a salesman for Keil Motor Company, and has been active in the Air Force Reserve since his discharge from service in 1946. The Borden Company has named B. David Halpern research director of its chemical division laboratory at Philadelphia. He formerly was president of Monomer-Plymer, Inc., Leominster, acquired by Borden last month. Change of address notices indicate that Dara P. Antia is with the National Carbon Company, Ltd., in Calcutta, India; Warren Knauer has moved from Houston, Texas, to Wilmette, Ill.; and Robert W. Maxwell is now in Cincinnati, Ohio.

By now, over 100 classmates have received post cards from me requesting news for these notes. Kindly respond, even a post card will do. — RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

• 1945 •

It is hoped that as you read these Class Notes your good wife is packing for your 10th Reunion sojourn; possibly you have just returned from your fabulous reunion and have not the strength to unpack! If changes in plans or conditions now mean you can come, please wire the Hotel Curtis, Lenox, Massachusetts, indicating arrival time; your fellow reunioneers will welcome your attendance.

During the month of March the following classmates have indicated that they will be in attendance: Hal and Lois Thorkilsen, Charlie and Nancy Hart, Tom and Elizabeth Hewson, Bill and Stella Loeb, Sandy Neuhaus, Frank and Matilda Gallagher, Al and Louise Oxenham, Curly and Betty Bickford as well as the following hopefuls: Ed Lerner, Jack and Veina Atwood, Sam and Elizabeth Haines. Needless to say at this time (April 10) your reunion committee is pleased at the interest shown by you all, but we want more! Not only do we want quality, but quantity! Drop whatever you are doing and drive to the Curtis. Most recent general class mailings have not mentioned class dues. Your class officers want to thank those of you that have contributed;

to those of you that have overlooked this chore, may we say that it is never too late. Believe it or not, one classmate, Bud Hetric, gave twice. Why don't others of you keep as accurate a record!

Reunion activities have kept news gathering to a minimum, but we do have a few items. Carol and Don Kuehl were very pleased to announce the birth of Claudia Dianne on March 8. On February 12, Stan Timmerman of Danbury, Conn., took as his bride Pauline Gale Coleman of Nutley, N.J. Stan is presently employed by Republic Foil and Metals Mills, Inc., Danbury, whom he recently joined after several years with the Scovill Manufacturing Company in Waterbury. Reunion follow-ups led to a most interesting note from Reg Stoops. After many years with American Cyanamid in Stamford, Conn., Reg recently joined the General American Transportation Company in East Chicago, Ind. To quote from his letter "I got your card as I was packing my bags to move out to wild . . . south side of Chicago to take a new job and continue an old courtship. Both have gone well and I am now a permanent, though unsettled, resident with plans of matrimony commencing May 14. You can imagine what chance there is of making the reunion." (Secretary's Note: The reunion would be a fitting climax to a happy honeymoon!) Reg sends his best to all and will reaffiliate with '45 after seven years affiliation with '48. We recently read of Jim Mulholland's wedding. We all remember Jim's beaming red face and flaming red hair as a member of 10-44. The lucky bride was Clariel Weikart of Fort Wayne, Ind. She is a graduate of Northwestern University and at one time sang professionally as Claire Holly. Congratulations to the new papa and the newly-weds!

We are off to the Hotel Curtis; hope to see you there. If not, your Secretary will be bringing you reports of the festive occasion. — C. H. SPRINGER, *Secretary*, Firemens Mutual Insurance Company, 420 Lexington Avenue, New York 17, N.Y.

• 1949 •

Judging from the number of news clippings forwarded to us '49ers are well represented on the nation's front pages. But if you're feeling frustrated in this respect, drop your Secretary a line and see yourself in print here.

The Danbury, Conn., *News-Times* for November 9, 1954, reports the appointment of nuclear physicist Robert B. Blizzard by the New England Institute for Medical Research in Ridgefield. Bob comes to N.E.I.M.R. from the University of Connecticut where he left the post of lecturer. John Bryant has joined the Field Engineering Division, Hughes Research and Development, Culver City, Calif. He comes to Hughes from the U. S. Navy. The face of Pete Cambourelis smiled upon the world from the Bridgeport, Conn., *Post* of Feb. 1, 1955. Pete, now a sales engineer with Rem-Cru Titanium, of Midland, Pa., was in Bridgeport to speak to the Young Men's Industrial Forum on "Titanium." Before his work with Rem-Cru, Pete worked for American Brass as a liaison representative with the National Production Authority in Washington. He

has been with Rem-Cru since 1952.

The *Hampshire Gazette*, Northampton, Mass., and the *Union*, Springfield, Mass., both carried the announcement that Charles E. Carver has been awarded his Sc.D. in civil engineering from Tech. Chuck received his M.S. at Tech and previous to receiving his doctorate was instructing in civil engineering at the University of Massachusetts. From Tech, Chuck, his wife Florence, and their two daughters, will be moving on to Baltimore where he has accepted the position of senior engineer with Glenn L. Martin Aircraft Company.

Dartmouth College sends us word of the appointment of Robert W. Decker as assistant professor in the Department of Geology. Bob received his Sc.D. from the Colorado School of Mines and taught at the University of Illinois. He brings with him to Dartmouth his wife Helen and their son Eric. The *Manchester, N.H., Sunday News* of March 6, 1955, carried a feature story concerning the work of city planner and '49er Robert G. Emerson. The article relates in detail Bob's efforts, as official planner for Manchester, to stir up interest and get a realistic master plan for the city rolling. Bob stepped into his present job last October and is waging a vigorous campaign to strengthen the authority of the Manchester Planning Board. Prior to his job in Manchester he worked as a planner in Madison, N.J.

Tom Hilton is doing psychological research at Harvard for the Ford Foundation and hopes to get his Ph.D. this June. Tom is married and has two boys, ages four and two. The engagement of 2nd Lieutenant Herbert L. Hochberg '50 to Audrey Elaine Golden was announced last October and is belatedly reported here. Herb is due to leave the Army Signal Corps this May. Before entering the army he received his M.B.A. from Harvard Business School. The marriage is planned for this June. Our only clue to the whereabouts of Chuck Holmes was his reply to last year's reunion mailings which arrived from Pepsi Cola's New York offices. Larry Holt's current job, we learn, is that of New England Sales Manager for the Niagara Blower Company. Larry lives in Melrose, Mass., is married and has two children.

John Horton has joined the Virginia-Carolina Chemical Corporation and moved into a new house in Richmond. He will be working as a senior development engineer. In response to reunion mailings John reported that he has a Sc.D. degree and is married. Frank Hulsmit is currently working with Arthur D. Little, Inc., in Cambridge, Mass., as a case leader in the operations research group. Frank is married and has two children. Bud Jones continues to keep busy as an administrative officer at Tech's Center for International Studies. Al Kenrick is currently at Harvard Business School working on his M.B.A. Al spent three years in the Signal Corps before going to Harvard. He is married and has one child.

Kermit Lambert is currently working as a product engineer in the Electrolytic Division of the Sprague Electric Company in North Adams, Mass. Kermit wrote last spring that he has three children with a fourth on the way. With golf and a good

trout stream nearby it sounds like the Berkshires must be a pretty nice place to raise a family. Sergeant A. Scheffer Lang reported from Fort Eustis, Va., last spring that he's serving as an instructor in railway engineering at the Army's Transportation School. He hopes to be out this spring. Scheffer brings a lot of experience to his job, having worked for four years with the Denver, Rio Grande, and Western Railway before going on active duty.

The January, 1955, issue of *Metronome* announced with some fanfare a series of articles on high fidelity by Henry Lang. The article emphasized Henry's M.I.T. training in acoustics but also stressed that the forthcoming articles would discuss how to listen to high fidelity as a musician rather than an engineer. Sounds interesting. The Rochester, N.Y., *Democrat and Chronicle* for December 10, 1954 carries a story about '49er Andrew T. Lemmens. Andy came away with the top prize of \$250 in a contest sponsored by the A.S.M.E. for the design of a new symbol to be used by the society in its 75th anniversary celebration this year. Andy's design combined a representation of the intersecting orbits of the atom (traditional symbol for nuclear power) with a representation of the thermodynamic cycle. He is currently working as a design engineer for the Gleason Works in Rochester. Before coming to Rochester Andy worked with R.C.A. in Haddonfield, N.J.

Joe Lynch is continuing his work with the Arnold Copeland Company in Boston. Joe is now controller and purchasing agent. He is married, lives in Milton, Mass., and has two children. Stan Margolin, an active member of last year's reunion committee, is currently working with Arthur D. Little as a chemical engineer. Stan is married and has one child. John Marvin was married last year to Gretchen Elliot in Providence, R.I. John's interest in sailing apparently hasn't slacked off since his days at Tech. The wedding story in the Providence *Journal* reported his affiliation with the Eastern Yacht Club of Marblehead, Mass.

It is with regret that we report the death of Francis B. Maxwell on October 21, 1953. Max came to Tech from Shenfield, Essex, England, and the news of his death came to us from his father there.

Many of the items reported in this month's column may have been obsoleted by the passage of time since their receipt so let us know of any errors. Remember, your old school buddies are always interested to hear about what trouble you've gotten into lately so don't be bashful, let them know the facts. We're also supposed to maintain an up to date list of addresses so if you want to get in touch with anyone in particular, we'd be glad to try and track them down for you.—O. SUMMERS HAGERMAN, JR., *Secretary*, Technical Marketing Associates, Concord, Mass.

• 1950 •

News from the churches ringing out wedding bells continues to comprise a good section of the class news. Henry Butler and Joan Ann Edinger said "I do" at St. Bridget's Church in Watervliet, N.Y., last February. After a wedding trip to Canada, they settled down in Idlewild

Park. Both Henry and Joan are employed by the Allegheny-Ludlum Steel Corporation. At a candlelight service in the Jamaica Plain Lutheran Church in Boston, Elsa Adgers of Philadelphia and Armand Brachman of Wilmington, Del., were married last December 26. He received his Ph.D. in chemistry from the Institute in 1953. They are making their home in Wilmington, Del. Gordon Alan Evans and Carolyn Kreen were also December newlyweds. They were married in the United Church on the Green in Bridgeport, Conn. Gordon graduated from Cornell Law School after Tech and is now a member of the Connecticut State Bar Association. The First Parish Universalist-Unitarian Church in Swampscott, Mass., was the site of the marriage of Mary Moise Kenyon of Worcester, and Louis Lehmann of Swampscott in February. After a wedding trip to the Laurentian Mountains in Canada, they set up their home in Marblehead, Mass. Louis is employed as a chief electrical engineer for General Electric Company in East Boston. The marriage of Linn Wittmer and Grant MacDonald took place in February at the Church of the Transfiguration, the famous "Little Church Around the Corner" in New York City. Grant spent three years with the United States Army Ordnance in Germany and since coming back, has been working with the American Brake Shoe Company at their research laboratory at Mahwah, N.J.

I have a couple of March babies to report about. Sterling Grant Brisbin, Jr., arrived on March 28, 1955, to brighten up the Brisbin household down in Stamford, Conn. And Sir Stork brought Neal Lawrence to the Berger household in Sharon, Mass., on March 24. That makes the second one for Paul. Marc is now about three and one-half years old. Paul is still with Fay Spofford and Thorndike, doing work on special Anti-Aircraft Sites in New England for the Corps of Engineers. Harold Estill is now working at the Aviation Gas Turbine Division of the Westinghouse Electric Corporation in Philadelphia, Pa. Ozzie Kincannon is now in New Orleans, La., with the Hercules Powder Company. Bill Nichols is studying at California Institute of Technology and he has been selected by the National Science Foundation, Washington, to receive a pre-doctoral fellowship in the natural sciences for the 1955-1956 academic year. Don Rose is now a member of the technical staff of the Field Engineering Department, Hughes Aircraft Company, Culver City, California. News from the Army front shows three out and two in. Ray Eger has been discharged after four years in the Air Force. Bob Randall is back in civvies again after a stay at the White Sands Proving Grounds in New Mexico. And Cliff Abrahamson now has Mr. in front of his name instead of lieutenant. Private Jim Broderick joined the ranks down at the Army Chemical Center in Maryland and Lieutenant Francis Fleming, Jr., is stationed in California.

The reunion plans are progressing very satisfactorily. All the pertinent information can be found in the latest publicity releases. An early tabulation in April shows that close to 200 people will be enjoying the weekend of June 11-12 at

the Treadway Inn at Coonamessett. Eating, drinking and being merry will be the order of the day. Be seeing you all at Coonamessett. I'll be helping to serve the "Welcome Drink."—JOHN T. WEAVER, *Secretary*, 24 Notre Dame Road, Bedford, Mass.

• 1951 •

Many of you have written to me at different intervals telling me that this class notes section does serve a good function. So—having reached agreement on that point, drop your Secretary a line or two.

From south of the border, Marc Aelion sends us a note: "Shortly before the end of 1954, I moved back to São Paulo, Brazil, and joined Laborterapica, a pharmaceutical firm associated with the Bristol Laboratories in the U.S. While at Tech I had a question as to how chem engineers fitted into the pharmaceutical field—now I know there is no end to area opportunities—from the design of miniature distillation columns to packaging of shaving cream and toothpaste. On the lighter side of life, we had a very exciting carnival week here. Carnival week in Brazil starts on Saturday and ends on Tuesday night officially. All work comes to a standstill and the only worries are which Carnival Party to attend. The four days seem to be full of parties. I see Werner Kahn '52 occasionally. He is a lubrication engineer with Gulf in Rio de Janeiro." Marc would like to contact Pablo Epstein. Does anyone know where Pablo is at the present? Marc can be reached at Avenida Nove de Julho, 1289, Apt. 41, São Paulo.

Shifting the scene to New England, we have a bit of news from Sam Rubinovitz. "Russ Oshann with wife and son are back from the Mid-west to the old homestead in Ameshun and work with C.B.S. Hytron. Nate Liebensohn has said *adieu* to the Army and is now with Monsanto in Springfield, still unmarried. Dave Caplan is still happy at Burroughs outside of Philadelphia. As for myself, I completed two years in the Air Force in July, 1954, and then joined the Transistor Products Company in Waltham. I am now assistant to the Sales Director. My work is interesting and challenging." Thank you, Marc and Sam, and good-luck to you. Mike Kesler has joined the Gaseous Combustion Group of the Atlantic Research Corporation, located in Alexandria, Va. Mike will be engaged in fundamental research in combustion studies, flame stabilization and the effects of turbulence on flames.

A word or two about Alumni Day. I hope many of you were able to get back to Tech. Four years have rolled by since we set out in various directions. Seems like only yesterday we were running function, planning for Field Day, and so on. I had better stop here. We will save a Review and talk about life in general for our first fifth year Reunion which will take place in one year. I assure you that your Secretary will employ his most conscientious efforts to get the largest turnout ever of '51ers for our reunion. More news will be coming in subsequent issues of The Review. We will need much assistance.—STANLEY MARCEWICZ, *Secretary*, c/o The Lorraine, Route 2, Highland, N.Y.

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Monday, June 13, 1955

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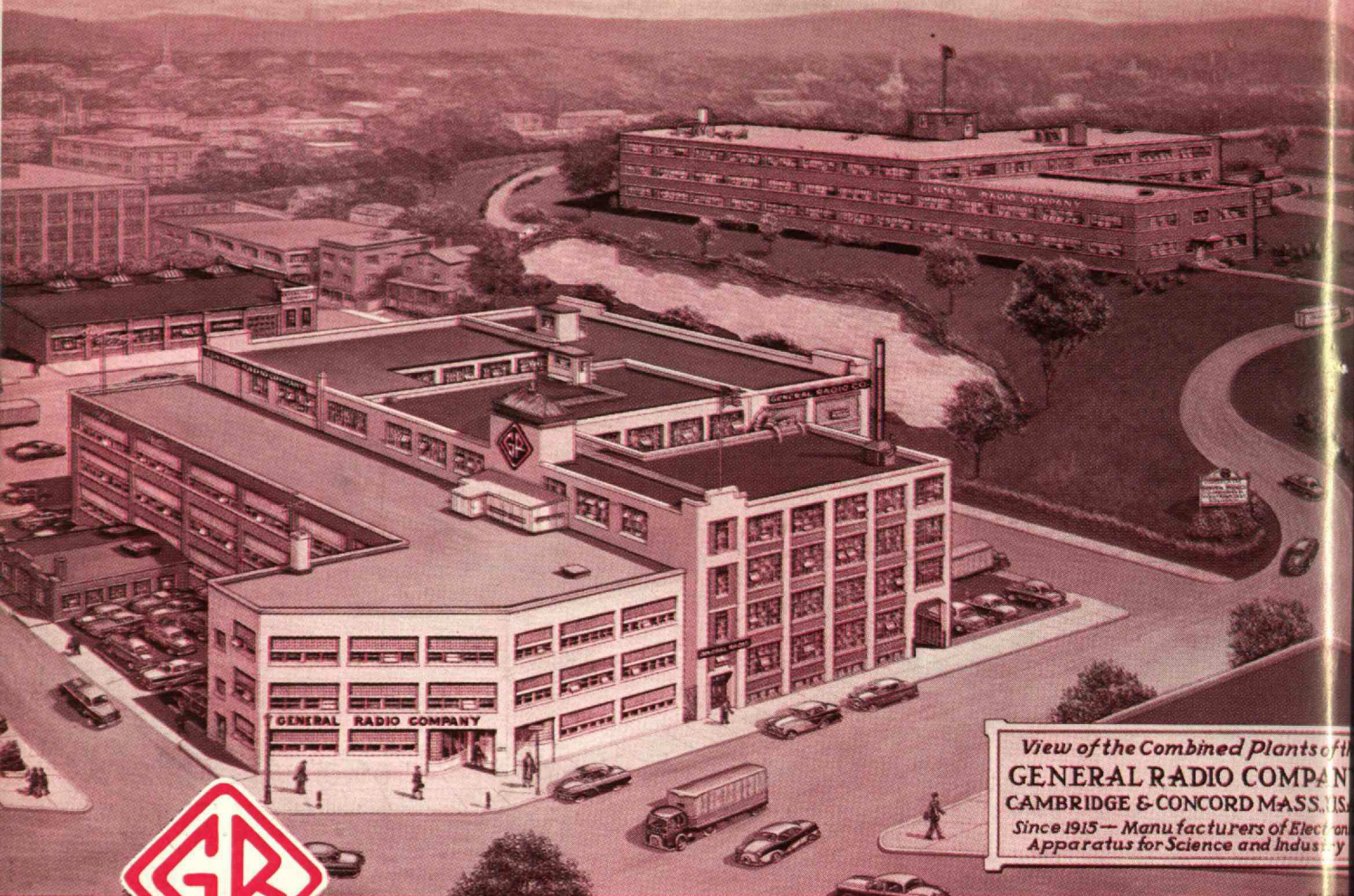
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